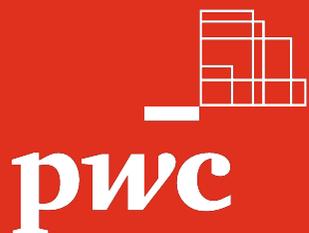


War in Ukraine

— Situational Awareness Briefing

21 June 2022



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Situational Awareness – Briefing as of 21 June 2022 (Summary)

Ukraine Crisis

The current geopolitical developments in Eastern Europe and the unprecedented attack on Ukraine are also an attack on our way of living and doing business together.

At the moment, no one can foresee all the consequences of this aggression. This is why urgent questions are now being asked in all areas of our social life. Also for companies this means far-reaching cuts and changes.

This Situation Awareness Briefing is provided for information purposes only by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft and will be updated regularly.

The overview to the right represents a summary of points along the following five dimensions:

- Overall Geopolitical Assessment
- Industry Special
- Forecast
- People
- Operations
- Finance



Overall Geopolitical Assessment

Russian and Ukrainian forces continue to fight over the vital area of Sievierodonetsk-Lysychansk. Several Ukrainian settlements were liberated in the Kherson Oblast by tactical counterattacks. Both sides are engaged in attritional warfare, where Russia currently holds undisputed superiority in artillery, long range missiles and tanks.



Forecast

Germany is resorting to coal to prop up its electricity supply for the next two years. Macron has lost his majority in the legislative elections to the left-green alliance Nupes who are now the biggest opposition, however Macron's 'Ensemble' alliance still holds with 245 the most seats. In the face of rising market jittering, the eurogroup stated that there was no reason for concern about the stability of the eurozone.



Operations (Focus: Cyber)

Last week Ukrainian hackers attacked the St. Petersburg International Economic Forum, where Russian President Vladimir Putin was supposed to speak, so his speech was postponed by an hour.

On June 16 the U.S. Justice Department announced that it has, together with colleagues in Germany, the Netherlands, and the UK, taken down the alleged Russian hacker network RSOCKS. The agency said the "Russian botnet" hacked millions of electronic devices around the world.



Industry Special: Technology - Update

Russia's is facing the consequences of the war as technology workers voted in large parts with their feet, leaving the country with their companies. Russian tech businesses try to find new markets and have found a potential growth market in India. China has seen a major policy shift in tech sector and its biggest cloud providers are experiencing as a consequence major challenges achieving their growth objectives.



People

Reportedly Russian millionaires are preparing to leave the country. UK intelligence service found out new details about filtration camps for civilians in the occupied territories. Male workers of IT sector in Ukraine may be allowed to leave the country on business matters.



Finance (Focus: Sanctions)

Beginning of last week, the U.S. Commerce Department extended export controls on the Belarussian national airline "Belavia" as it is accused to have violated restrictions after the Russian invasion. Consequently, companies worldwide are no longer allowed to repair or deliver parts or equipment originating from the U.S. for the aircrafts affected. German chancellor Scholz announced to establish a national register for assets of unclear origin in order to improve the country's sanctions' effectiveness. Germany is known to be a target of particular interest to individuals aiming to disguise the origin of their wealth.

For questions, comments or details, please contact Joint Crisis Center team: de_ukraine-crisis@pwc.com



Key takeaways

- The Iziurm salient and Popasna breakouts of Russian forces still pose the most critical risks to Ukrainian Army elements facing east. At Kherson, Ukrainian forces attempt to break through into the Russian rear, but had limited success.

Current topics

Current situation in the Russo-Ukrainian War

Russian forces are facing considerable resistance by Ukrainian forces along the entire front. This week they again only made minimal progress as movement in most front sections stagnated. From the Iziurm salient Russian forces continued east along the Siverskyi Donets river inching closer towards Sloviansk. The three-pronged attack on Sloviansk from the Krasnopillya-Boherodynche-Rajhorodok areas continue. The northern bank of the Siversky Donets river was abandoned by Ukrainian forces to improve their defensive position. A renewed Ukrainian attack west of Iziurm has stalled Russian efforts towards the south. At Sievierodonetsk all bridges towards Lysychansk have been destroyed as fighting for the city has intensified. Southern suburbs have changed hands multiple times. To avoid crossing the Siversky Donets river head on Russian efforts have shifted south and their attacks concentrate on the west bank of the river. A smaller semi-encirclement in the area of Zolote south of the Sievierodonetsk-Lysychansk area continues to form. From the Popasna salient Russian forces push along the entire line towards Bakhmut (a vital crossroads in the defense of the Donbas). A second semi-encirclement is also forming north of Svitlodarsk. The frontline from Donezk to the Dnieper has remained quiet this week. Along the entire Kherson front on the west bank of the Dnieper multiple tactical Ukrainian counterattacks have liberated several settlements. The conflict has shifted from movement warfare to stagnation and attrition. Russia seems content with small gains on a weekly basis, while Ukraine lacks the reserves and equipment to mount a significant counterattack that can throw Russian forces out of their forward positions. Ukrainian equipment losses have amounted to 40% of its pre-war force, while Western aid has only compensated for about 15% of those losses. Russian strikes on warehouses, train networks, bridges and ammo dumps have significantly increased the logistical problems of the Ukrainian defenders. As more and more Western weapons are scheduled to arrive in Ukraine this summer the likely outcome will be an even slower pace of operations on most sections of the front, while the Sievierodonetsk-Lysychansk area will remain in the epicenter of attention in the coming weeks.

Indian-Russian relations - Update

Over the past decades, India has maintained close political, economic, and security ties with Russia. The Russo-Ukrainian War forces India to engage in a balancing act in maintaining amicable relations with the West and Russia, however, even in the face of Western pressure, India is unlikely to pivot away from Russia. First, India views Russia as an essential partner in counterbalancing China's hegemonic aspirations in Asia. India's defense forces also depend heavily on arms exports from Russia. India has deepened economic ties with Russia since the start of the war. India imports 80% of its oil demand from abroad. In 2021, around 2% of total oil imports (12 mln barrels) came from Russia. However, since the start of Russia's invasion end of February, India has already imported around 66.5 mln barrels (including August orders). India has taken advantage of discounted prices to ramp up oil imports from Russia at a time when global energy prices have been rising. As a side-effect, India has significantly eased the effect of Western sanctions on Russian energy exports. Finally, the Modi administration has promoted a Hindu nationalist and illiberal agenda, contributing to an increasingly divisive and contentious political climate and potentially putting the country on a path to becoming a "managed democracy". This has also put the country at odds with the West. However, the West cannot afford to lose India as a partner. The West and India share their geostrategic rivalry with China. While the Modi administration's populist nationalism has tarnished India's image in the West, geopolitical considerations will override concerns about India's political system. Recently, the US has also made attempts to sell the country advanced weapons systems and proposed to help India develop and modernize its domestic defence industry to reduce its reliance on Russian arms. Therefore India may be able to exploit its neutral stance and extract concessions from the West, as India is simply too important to the West as a counterbalance to China. At the same time, reducing its dependence on Russia is also in India's long-term interest, due to concerns over the performance of Russian weapon systems, the reliability of spare part support, and Russia's reduced economic and political influence in the international sphere due to its increasing political isolation.

Overall Geopolitical Assessment (2 of 2)



Key takeaways

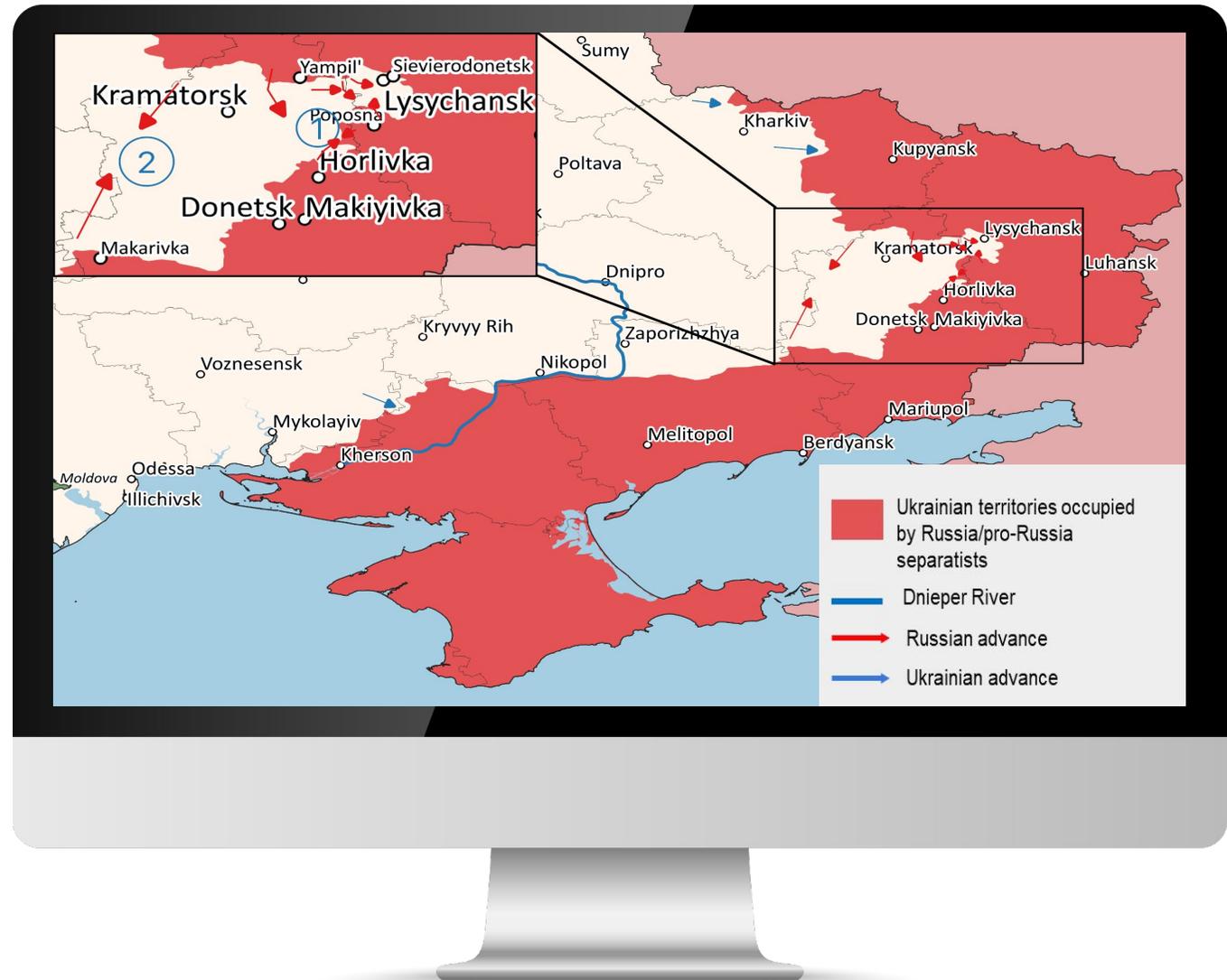
- Russian forces in the Donbas made a critical breakthrough at Popasna a few weeks ago. If it remains unchecked and is accompanied by a push from the north, a significant number of Ukrainian forces are likely to be encircled.

Selected upcoming events

- **June 23 - 24:** it is expected that **EU leaders will assess Ukraine's request for EU membership.**
- **June 26 - 28: G7 Summit in Germany** shall demonstrated the unity of the world's leading democracies
- **June 28 - 30: Nato Summit in Madrid** where Nato will adopt its new Strategic Concept
- **11 July: Eurogroup** meeting of the EU's finance ministers
- **18 July: (EU) Agriculture and Fisheries Council** adopts legislation relating to the production of food

Current Military Situation in Ukraine

(arrows indicate potential future Russian operations in the coming weeks)





General context

The Russian invasion of Ukraine has led to Russia being largely isolated from the rest of the world. In the tech sector, large parts of the workers have voted with their feet and relocated to eastern Europe or Black Sea states. Some businesses that stayed are now on the search for new partner markets and have potentially found one in India.

China's tech sector is currently in a reorganization phase. Xi Jinping's new regulatory onslaught has caused a technology sector sell-off, which at its deepest wiped out USD 2tn in market value and leading to the cloud sector missing its forecasted growth projections.

Current topics

IT market in Russia is massively relocating

Small and large IT companies from Russia are increasingly relocating offices and employees abroad. Small companies move to countries with a functioning venture capital market, business support system and access to capital (France, Spain, Cyprus and the UK). The main task of startups with a staff of less than ten people is to reach the next round of investments. Large companies have a different motivation - to find a country with low payroll taxes (Bulgaria, Hungary, Serbia, Cyprus and Armenia and Turkey).

Israel will open the so-called green corridor for IT professionals from Russia and Ukraine, regardless of their Jewish roots, but only for those employees who already work in Israeli technology companies. Also, the United States intends to cancel part of the visa requirements for specialists from Russia in the field of semiconductors, cybersecurity and space technologies, reports Bloomberg.

Russia's start-ups find a new market in India

India takes 16th place for Russian export markets and Russia takes 36th place for Indian exports, however as India is one of the few markets that are left open for Russian businesses, some Russian start-ups are now eyeing the market with greater interest. For businesses like ZyfraGroup a Russian Finnish industrial digitalization solution provider, India has now become a key foreign market. However the path will be a difficult one. Europe and the US being the main customers of Indian IT businesses, means Russian companies must first establish a foothold in the market before they will be seen as possible and promising business partners.

Cloud services are losing customers in China

Alibaba's cloud business which was long hailed as a sure fire plan for growth is now experiencing a significant slowing of that growth, failing to meet large parts of its financial goals. Finance Chief, Maggie Wu promised investors that Ali Cloud would see 50% year-on-year growth rate. Today, the growth rate has stagnated to about 12% in the first quarter of 2022 from a year earlier. Alibaba's biggest domestic competitor Tencent reported its cloud business shrank in the same period. There are a few reasons for this development. Firstly, Beijing has started a regulatory battle as it incentivizes venture capital firms to ditch internet consumer based businesses, in an effort to reorganize the economy around "hard tech". These businesses, many of which with less than 100 employees, make up a considerable part of Alibaba's business and a of them have closed shop this year. Secondly, the economic slowdown in China, thanks to the draconian Covid-19 lockdown measures has further left its mark on the market, further hampering demand.

Preliminary Assessment

- India has a long history of being a loyal customer and procurer of Russian military equipment, time will tell whether the private sector will find Russian technology as appealing as the Indian government does
- Amazon's cloud business performs better in comparison to Ali Cloud, growing 36.5% year-on-year in Q1 of 2022
- Cloud providers which are favored by the Chinese state, such as Huawei and state backed telecom companies like Tianyi Cloud and Tsinghua Unigroup, add to the pressure for Alibaba and Tencent



General context

Considerations on implications for businesses along the PESTEL framework

P Political	Macron loses majority in the National Assembly
E Economic	Eurogroup: EU does not face sovereign debt crisis
S Social	Social related implications: e.g. refugee streams, labour market developments
T Technological	Technology related implication: e.g. cyber threats and disinformation, IT infrastructure disruptions
E Environmental	Germany ramps up coal to supplement energy supply
L Legal	Legal implications: compliance with changing regulations, contractual obligations, etc.

Current topics

Germany resorting to coal

Germany will significantly increase its usage of coal to supplement its energy supply. The German government announced it would pass emergency laws that shall reopen the previously mothballed coal plants for electricity generation. The move was made as the German government started to have grave concerns about possibility of gas shortages in the winter. Further, Berlin is planning to auction gas supplies to industry to incentive market players to limit consumption. Last week Russia cut 60% of the gas capacity of the main gas pipeline – Nord Stream 1 – which supplies Germany. The current plan is to temporarily bring up coal to 10 Gw of idle coal based power plants for up to 2 years, which would increase the countries dependence on coal for electricity generation up by a third.

President Macron losses majority in the National Assembly

Macron's centrist Ensemble alliance had won 245 seats in the National Assembly, well short of the needed 289 seats needed and previously held for a outright majority in the 577-seat chamber. The left-green alliance – Nupes – which was formed by the far-left politician Jean-Luc Mélenchon was supported by many young urban voters and emerged as the main opposition bloc with 131 members. The big surprise of the election night was the success of Marine Le Pen's far-right Rassemblement National party, which won 89 seats and as such increased its seat by more than ten times from the previous legislative elections. For Macron this means he must strike deals with other parties to pass legislation and achieve his ambitions of increasing the retirement age from 62 to 65 and simplifying the costly pension system.

The Eurogroup chief: Europe does not face sovereign debt crisis

The surging inflation stemming from the energy supply disruptions caused by Russia's invasion of Ukraine has sparked fears that the eurozone is heading into a sharp downturn. Further the lifting of interest rates of central banks, including the ECB, has further intensified those fears. Now Italian and Spanish bond yields hit their highest levels for eight years as the markets anxiety increases. Now, the Eurozone chief Paschal Donohoe came forward and stated that the eurozone is well placed to ride out the current market volatilities, and didn't face the risk of a crisis it faced a decade ago of repeating itself. Donahoe stated, the euro area had a "stronger architecture" and "deeper foundations for our common currency". The EU has strengthened its bank regulation with the creation of a pan-European supervisor and crisis-fighting infrastructure through a common resolution mechanism when and should leaders fail. Further, the ECB has new tools to buy government bonds.

Preliminary Assessment

- In order to combat the possibility of gas shortages Germany is planning to, firstly, reduce normal consumption by a fifth without resorting to rationing and secondly by increasing Norwegian pipeline supplies and LNG imports
- Christian Lindner, German Finance Minister, suggested that the ECB overreacted to the sell-off in the bond market, further stating that there was no need for any concern about some countries borrowing costs rising faster than others.
- The eurozone is set to grow 2.8% this year and 2.1% next year. A downside scenario where Russia cuts off all energy supplies to Europe would lead to the EU economy shrinking 1.7% next year - which looks increasingly likely since Russia drastically reduced the gas supply to Germany and Italy



Key Considerations

Response measures may include the following:

- Scenario planning sessions to explore how the escalating situation could impact the organization and identify the risks and mitigating actions.
- “Table-top exercising” can be used to validate response structures if they are not already in operation.
- Ensuring that playbooks are in place for extreme but plausible scenarios such as loss of IT for an extended period and disruption to critical suppliers.
- Ensuring the ability to locate all personnel based in, or travelling to, regions of conflict and ensure appropriate steps are taken for their protection.

Current topics

Millionaires trying to leave Russia

The desire of Russian citizens to flee is reported in the British intelligence daily summary. According to intelligence assessments, 15,000 Russian millionaires have already attempted to flee the country through migration applications. The motivations are most likely a combination of personal opposition to the war and a desire to avoid the financial effects of Russian sanctions. If this trend continues, the war's long-term economic harm to Russia's economy is expected to worsen. It should also be mentioned that, while the majority of Russians tell sociologists that they favor the "special operation," a significant portion of the public actively and passively opposes it.

Alleged “Filtration camps” in the occupied territories

Reportedly Ukrainians trying to leave Russian-occupied cities cannot do so without going through a process called "filtration".

According to the BBC investigation, people's phones are confiscated and their social network accounts and personal correspondence are searched, they are being checked for tattoos and bruises on the shoulders and fingers, which could be left from the use of weapons. Reportedly there have been reports of arrests due to anti-Russian messages found on the phone, and even deaths in camps. Anything that seems suspicious to an inspector can lead to beatings or electric shock. Reportedly many are deported to Russia against their will.

Male workers in IT sector may be allowed to leave Ukraine

Since the beginning of Russia's invasion, allegedly 70% of IT companies haven't lost the pre-war pace of doing business. Most of them either have attracted new customers or are expecting the business activity growth to appear soon. As a result, the issue of going abroad is becoming increasingly important, in particular for meetings with customers and foreign partners.

The Deputy Minister of Digital Transformation of Ukraine said that together with the Ministry of Defense they are creating a mechanism by which men in the IT sector can travel for a short time on work issues, provided that the person will return. Preliminarily, IT companies will submit a limited list of people, not exceeding 10% of the total number of employees. After that, the Ministry of Defense and the Ministry of Economy will consider the candidates and only then will be able to issue a permit to travel abroad. The issued permit will specify the period for which the company's employees can leave the territory of Ukraine.

Preliminary Assessment

- Britain has imposed sanctions on the head of the Russian Orthodox Church, Patriarch Kirill (Vladimir Gundayev), and a number of others for the Russian war against Ukraine.
- Currently, due to martial law, it is forbidden to leave Ukraine for men aged 18 to 60.
- The IT sector in Ukraine is one of the most profitable industries. Ukraine's IT sector generated a record 2 billion in export earnings in the first quarter of 2022, despite the war, team-mobilization and -relocation, according to the IT Ukraine Association.



A promising cyberwarfare weapon: Data poisoning

Data poisoning exploits training data to deliberately mislead machine learning algorithms. An attacker will infiltrate a machine learning database and insert incorrect or misleading information. As the algorithm learns from this corrupted data, it will draw unintended and even harmful conclusions.

Data poisoning can be used for corporate espionage, yet instead of finding out the competitor's secrets, one hides their own information from them, or deliberately leads them to poor interpretations of their own data. A bad actor could also use data poisoning to obfuscate transactional data at a bank, preventing AI-led identification of money laundering operations, for example. It could be used as ransomware, or a tool for activists who want to frustrate a business operation. Financial markets could also be used to profit from data-led swings orchestrated by feeding poisoned data to a quantitative analysis software. A data poisoning cyberattack at government or military level might also be possible. A terrorist faction could, theoretically, use data poisoning to subvert AI-led air traffic control at a major airport.

The best defence against a data poisoning attack is to use own training data and be vigilant about who labels it and how. But a better holistic defence might be to look at training a secondary tier of AI to spot mistakes in primary data analysis.

Current topics

Vladimir Putin's video speech was delayed due to a powerful cyber-attack

June 15th to 18th, 2022 in St. Petersburg hosted the St. Petersburg International Economic Forum - one of Russia's largest annual events in its economic sphere. Shortly before Vladimir Putin's speech, the Kremlin reported a cyber-attack that knocked out the conference's accreditation and admission systems. As a result, the Russian president was forced to postpone his scheduled speech by one hour. Vladimir Putin devoted his speech mainly to the development of the Russian economy under sanctions. He reiterated that the so-called special military operation in Ukraine will continue, and accused Western countries of forcing Russia to start hostilities.

Ukraine reports a "massive" spam campaign

A recent email from the Press Office of Ukraine's State Service of Special Communication and Information Protection (SSSCIP) warned that a "massive" spam campaign against media outlets had begun. Emails titled 'Interactive Map Reference List' are targeting media outlets (radio stations, newspapers, news agencies, etc.) of Ukraine. Opening of attached documents may initiate download of CrescentImp malware. This activity has been attributed to the Sandworm group with a medium certainty level.

U.S. Justice Department announced the elimination of a hacker network in Russia

On June 16th the U.S. Justice Department announced that it has worked with colleagues in Germany, the Netherlands, and the United Kingdom to take down the alleged Russian hacker network RSOCKS. The agency said the "Russian botnet" hacked millions of computers and other electronic devices around the world. The report says that the fight against the hacker network began back in 2017. At that time, the U.S. authorities found that cybercriminals could have hacked about 325,000 electronic devices.

Russian radio hacked

Recently, Russia's Kommersant FM's midday newscast was abruptly interrupted by the Ukrainian national anthem 'Oh, the Red Viburnum in the Meadow' and a song called 'We Don't Need War' by Russian group. Kommersant FM is associated with the Kommersant newspaper, which covers politics and business.

Preliminary Assessment

- According to CNN, early last week the Ukrainian IT-Army named the St. Petersburg forum as one of the targets for possible cyber attacks.
- Adviser to the Russian President Anton Kobayakov compared cyber attacks on the information infrastructure of the St. Petersburg Economic Forum to the attacks of the Nazis on Stalingrad during World War II. Kobayakov, who is the executive secretary of the forum, claims that DDoS-attacks came from the United States, Ukraine, Indonesia, Brazil, and several other countries
- Sandworm is a Russian threat actor associated with Russia's military intelligence service and best known for its role in the 2015 and 2016 cyberattacks against sections of Ukraine's power grid. The group has also been fingered for the 2017 NotPetya pseudo-ransomware attack and 2018's Olympic Destroyer incident.



Key Considerations

Sanctions Screening Activities

- Screening solutions generate increasing number of alerts (especially banks must deal with the increased workload)
- Appropriateness and effectiveness of sanctions screening measures in identifying sanctioned parties and activities must be ensured. Complex ownership structures complicate the proper identification of involved parties (OFAC 50% rule)
- Trade transactions with Russia and Belarus must be reviewed

Sanctions Compliance Governance

- Sanctions Compliance Governance as a key requirement increasingly in the focus of regulatory authorities
- Robustness of Sanctions Compliance Management System and sanctions controls to counter the current and new sanctions regulations
- Adequateness of internal safeguards to prevent sanctions circumvention activities

Current topics

Wave of new sanctions by the West

Beginning of last week, the U.S. Commerce Department extended export controls on the Belarussian national airline "Belavia" as it is accused to have violated restrictions after the Russian invasion. Consequently, companies worldwide are no longer allowed to repair or deliver parts or equipment originating from the U.S. for the aircrafts affected.

In face of the forced transfer of Ukrainian children, Britain sanctioned Russian Orthodox Church leader Kirill and the Russian Children's Rights Commissioner Lvova-Belova. London condemned the deportation and forced adoption of children. Further, four senior military officials have been added to the country's sanctions list to systematically target the enablers of Russian President Vladimir Putin's war against Ukraine.

German chancellor Scholz announced to establish a national register for assets of unclear origin in order to improve the country's sanctions' effectiveness.

More companies to unveil their strategy to exit the Russian market

The world's biggest furniture brand IKEA stated mid last week to sell its factories, close offices and lay off its 15,000 workforce in Russia to cut its operations in the federation. Joining the mass exodus of Western firms since March, the Swedish company declared to look for potential buyers for its four plants in Russia. Russian furniture chain Tvoi Dom and another brand Hoff are reported to consider buying IKEA's Russian assets.

Italy's biggest bank, the international Intesa Sanpaolo group reported to work on the sale of its Russian business unit, though international sanctions substantially limit the number of possible buyers. The bank cut its profit expectations by around USD 850 million last month to cover its exposure to the war with its onshore business servings as well as its cross-border loans.

Russian gas flows to Europe fall short

Germany's Uniper reported mid June to have received 60% less gas from Russia. Italy and Slovakia reported to have received less than half of its usual supply volume through the Nordstream 1 pipeline. France reported to have received no Russian gas from Germany since June 15th. The high reliance of the European Union's member states on Russian gas is a risk which exposes them to potential retaliation measures for the imposed economic sanctions.

Preliminary Assessment

- Since the outbreak of the war, hundreds of companies left Russia, oftentimes at the cost of writing down losses of hundreds of millions of dollars due to the sale of their assets at cut prices.
- Italian Prime Minister Mario Draghi accused Moscow during his visit with his fellow German and French counterpart in Kiev to use its supply power for political reasons.
- Update to Russia's ability to pay its Eurobond liabilities: To prohibit its first international bond default on foreign debt in a century Russia declared to pay its Eurobonds in roubles, which can be later converted into foreign currency at the exchange rate of the day of the payment.

General remarks



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