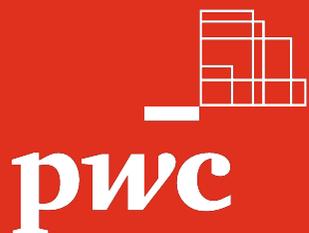


War in Ukraine

— Situational Awareness Briefing

27 September 2022



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Situational Awareness – Briefing as of 27 September 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

The Ukrainian offensive towards Kherson continues with slow progress. After the Ukrainian success in the Kharkiv Oblast, continued Ukrainian efforts along the Oskil river seek to exploit current Russian disorganization and manpower shortages. In the meantime, Russian efforts to occupy Soledar and Bakhmut continue, despite setbacks at other fronts.



Forecast

Economist Nouriel Roubini forecasts a "long and ugly" recession in the United States and throughout the world by the end of 2022, which might last until the end of 2023. After Putin's speech on Friday, the ruble is expected to fall, Russian actions and stocks to lose their points and Russian economy to gradually move to a military state.



Operations (Focus: Cyber)

Reportedly, Russian airport websites were compromised by Ukrainian hackers and calls for resistance were published. The so called Ukrainian IT Army has hacked Russia's Wagner Private Military Company (PMC), which allegedly recruits Russian prisoners to fight in Ukraine. A Russia-linked APT organization, has been seen impersonating telecommunications companies in order to target Ukrainian entities with malware.



Industry Special: Life science - Update

Russia's domestic pharmaceutical industry is facing serious challenges from Western sanctions and firms pulling out from non-essential operations. Research and development investment in Germany's chemicals and pharmaceuticals industry has stopped. Pharmaceutical companies are facing severe supply chain issues.



People

From 23 to 27 September Russia has been holding so-called referendums in the occupied regions of Ukraine. German police are searching the Bavarian estate of a Russian oligarch, Alisher Usmanov, due to suspicions of tax evasion. Ukraine announced that 215 prisoners of war have been released from Russian custody.



Finance (Focus: Sanctions)

The EU is planning an extension of Russia-related sanctions following the announcement of partial mobilization in Russia. US Senators released a Framework proposal for new Russia sanctions. Some of the EU countries opposed easing the ban on the transportation of coal from the Russian Federation.

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



Key takeaways

- The loss of Kupiansk and Izium has significantly upset the Russian war plans.
- Ukraine seized and absorbed large amounts of Russian arms and supplies
- Yet another battle for the Lyman area is underway, with Russian troops possibly encircled

- The mobilization of up to 300.000 soldiers poses an enormous logistical and organizational challenge for Russia
- It will take several months to mobilize, equip and train the new recruits. Many of which could be stranded in Moscow for days, as the Russian capital is an unavoidable railway chokepoint. This poses the threat of unrest in city.

Current topics

Current situation in the Russo-Ukrainian War

At the Kherson front UAF forces continue in their attempt to eliminate the Russian possessions on the western bank of the Dnieper. Minor incursions have succeeded along the extreme flanks, while a larger salient has formed in the vicinity of Davydiv Brid. The Russians seem to have strengthened their new line and Ukrainian advances have stalled this week. Russian forces continue to push along the Soledar-Bakhmut line and continue to attempt their advance in the direction of Sloviansk and Kramatorsk from the south, as it currently remains their sole venue of attack towards the west. At the Kharkiv front and Izium salient, Ukrainian forces have exerted control over the newly gained territory, acquiring and reconstituting a large number of abandoned Russian vehicles, armored carriers and tanks. In addition, multiple ammo dumps, fuel storages and special military equipment has been seized and were instantly absorbed for use by the forces in the area. Russian forces returned to order after blocking detachments along the Oksil river absorbed retreating soldiers and reconstituted the formation of a cohesive defensive line. However, Ukrainian forces managed to seize three bridgeheads across the Oksil at Horlivka, Kupiansk and Borova. Moreover, another Ukrainian push across the Oksil is currently outflanking Lyman from the north. Currently the 4th battle for Lyman is underway as the city has changed hands multiple times in the last weeks. An encirclement of Lyman is likely to occur in the coming days. The fallout of the Ukrainian victory in the Kharkiv Oblast has upset Russian plans in the Donbas. Currently Moscow is transferring reserves to the entire front in an attempt to stabilize the situation and form a cohesive line that can withstand future Ukrainian offensives. It seems the current Russian strategy rests on the premise that stalling Ukrainian efforts until the fall thaw will render large scale mobile operations unlikely or confine them to the road network. Russian attempts to trade occupied territory for time allows Moscow to pursue two important policies with which it seeks to bolster the war effort. The gained time allows for the incorporation of four Ukrainian Oblasts (Kherson, Zaporizhzhia, Donetsk and Luhansk) into the Russian Federation. It also allows for Russian reverses and newly mobilized forces to be transferred to Ukraine in an attempt to regain the strategic initiative.

Partial mobilization in the Russian Federation

Recent military reverses in Ukraine have forced Moscow to announce a partial mobilization of reservists to alleviate manpower shortages. With the mobilization of 300.000 of its reservists, Russia seeks to regain the strategic initiative. It is also an indication that the Russian leadership indirectly acknowledged that the initial 125.000 soldiers were insufficient to achieve the Russian war aims. The mobilization announcement will not directly materialize into a change of the military situation in Ukraine. Russia lacks the organizational and logistical procedures and personnel to implement the previous Soviet Army mobilization system that was abolished in 1997. In addition, Russia had previously raised 30+ battalions of volunteers throughout Russia in July that have yet to appear at the Ukrainian front. It is likely that part of the mobilized reservists will provide the officers for those newly formed contingents. Russia will also require several months to retrain and rearm those reservists. Russian arms that are currently in military storage centers will require reactivation and refurbishment. The combat effectiveness of those reservists will be mediocre as most will be beyond the prime military age and will have been trained on the basis of outdated military doctrine. Russia is a centralized country and heavily dependent on its rail network. Most rail lines run through Moscow and the partial-mobilization effort is likely to transform Moscow into a logistical chokepoint. Thousands of Russian reservists are likely to get stranded for days until their designated units are formed, likely leading to stronger opposition towards the government and the war effort. The expected effects of the partial mobilization are as follows: a) Russia signals that it is willing to double down on the war effort and that it will not cease its operations until several Oblasts are brought under total Russian control. b) Russia will engage in a significant reorganization effort of its armed forces, to absorb, reintegrate, retrain and supply those forces. c) The increased manpower base will allow Russia to implement a more force conserving rotation system to reduce the combat exposure of forces currently in Ukraine that suffer from fatigue after seven months of fighting. d) The reservist officer cadres will also serve as the skeletons for currently defunct former Soviet army formations and thus allow for extended training and recruitment centers in case future mobilizations are necessary.



Key takeaways

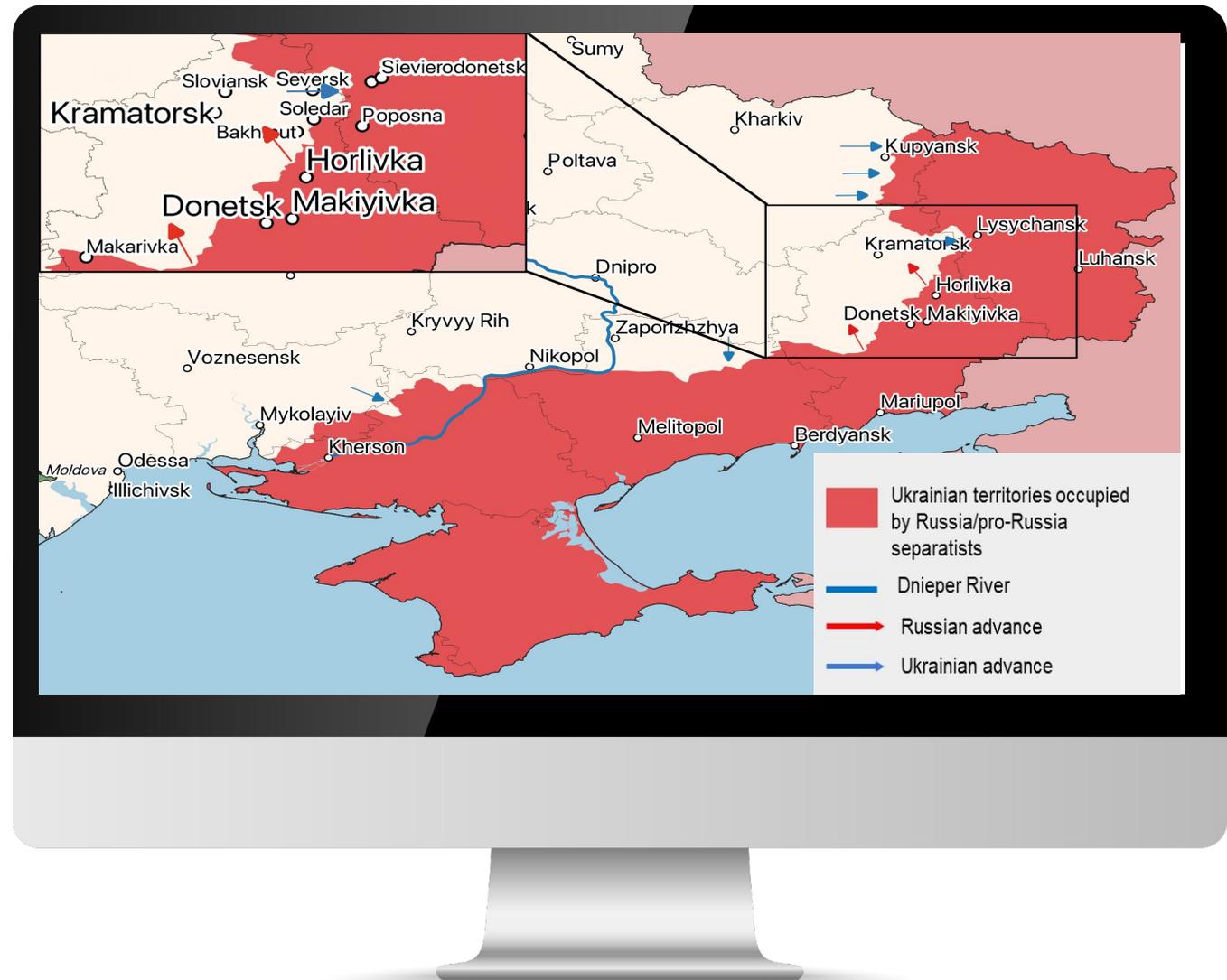
- Ukrainian success in the Iziurm salient represents a strategic reversal of the first order. Russia, however, continues to slowly advance in the Donbas.

Selected upcoming events

- 4 October:** (EU) Economic and Financial Affairs Council
- 5-10 October:** (EU) European Migration Network Annual Conference
- 7 October:** (EU) Informal meeting of Heads of states or governments
- 3-4 November:** G7 Foreign Ministers summit in Germany

Current Military Situation in Ukraine

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





General context

Since Ukraine and Russia are largely pharma importers, the war has had a limited effect on the global pharma industry. However, trade between the two countries and important exporters has been disrupted. As for now, the situation in Ukraine and Russia is different. GlobalData's database shows there are 22 foreign-sponsored, multi-country clinical trials in Ukraine that are disrupted or potentially disrupted by the war. Out of these studies, 19 are still listed as ongoing. For context, there are 678 ongoing foreign-sponsored, multi-country clinical trials listed with at least one site in Ukraine.

Overseas sponsors and Contract Research Organizations (CROs) have accepted the risk of keeping the trials in Ukraine and a spokesperson of Labcorp, a leading laboratory operator, says that while the company is not actively pursuing new work in Ukraine, it is prepared to support sponsors if they choose to begin new studies there.

Meanwhile, reportedly there have been no new international clinical studies based in Russia since the start of the war. Prior to the invasion, First Moscow State Medical University was one of Russia's largest institutions, with up to 120 active clinical studies.

However, the great majority of these studies are now unlikely to open locations there since samples must be shipped to third countries like Turkey or the Persian Gulf countries. Long journeys for test samples might potentially render the enterprise uneconomical.

Current topics

Russia's domestic pharma production

Back in March in an open letter, around 400 pharma company CEOs and investors have pledged to stop working with Russia and to reject investment from Russian funds in response to the war. As reported earlier companies that own Russian pharma contract manufacturing or supply chain sites (e.g. Thermo Fisher, Eli Lilly) generally halted operations except for vital treatments. Pfizer and Bayer halted investments in Russia and are limiting their offerings in the country to essential medicines.

Reportedly even if overseas sponsors want to keep ongoing studies active in Russia, it is "near impossible" to do so due to logistical issues and prolonged deliveries of lab samples which could impair their quality. Many Russian pharma manufacturing facilities lack approval of the American FDA or the European EMA. Thus, Russian pharma companies mostly produced for the domestic market. The Russian Covid vaccine Sputnik V was also produced in the German state of Bavaria. Operations were stopped, however, with the start of the war..

Pharmaceutical industry facing supply chain issues

Pharma supply chains had already been strained due to the Corona Pandemic. Now, the war in Ukraine is taking its toll on the industry as sanctions against Russian financial institutions keep importers from paying their bills while higher insurance premiums make shipments into the Black Sea less affordable. Additionally Russia has been one of the biggest exporters of aluminium foil which is used as the primary packaging material for medicines. The Russian invasion of Ukraine disrupted the supply of aluminium foil or sheets accordingly.

Germany's chemical research and development stalls

According to the chemical producers' trade group VCI, R&D investment in Germany's chemicals and pharmaceuticals industry has stalled. Uncertainties and high energy and material prices in the aftermath of the coronavirus outbreak, as well as Russia's war in Ukraine, have put pressure on firms' profits, pushing them to postpone or curtail R&D expenditure. China now ranks as the largest spender globally in terms of chemical R&D. The reason for this success is that the Chinese state was "massively" supporting research and development, and it was ensuring that new products can come to market quickly. Last year, Germany's chemical-pharmaceutical industry invested about EUR 13.2 bln in R&D, which was below the pre-pandemic level from 2019, according to VCI.

Preliminary Assessment

- Large pharma companies are halting non-essential operations in Russia. Some pledged to donate their revenue from the Russia business to Ukrainian humanitarian organizations.
- The Russian Covid vaccine Sputnik V is no longer being produced in Bavaria, Germany. Production is expected to be shifted to the Middle East and African countries instead.



General context

Considerations on implications for businesses along the PESTEL framework

P Political	Complication of relations between Russia and the West.
E Economic	Projected recession in 2023. Russian economy is moving to a war footing. Gas leaks in Nord Stream 2 pipeline
S Social	New influx of Russian citizens fleeing country due to mobilization
T Techno-logical	Technology related implications: e.g. cyber threats and disinformation, IT infrastructure disruptions
E Environ-mental	Environment related implications: e.g. Resource scarcity, energy embargo
L Legal	Legal implications: Compliance with changing regulations, contractual obligations, etc.

Current topics

An expected recession throughout the world

Economist Nouriel Roubini predicts a "long and ugly" recession in the United States and throughout the world at the end of 2022 that might last until the end of 2023. He also expects S&P 500 to fall by 40% in the worst, but possible, case scenario. Those anticipating a weak US recession should consider corporate and government debt ratios. For the Federal Reserve, maintaining a 2% inflation rate without a harsh landing will be "mission impossible," according to Roubini. He added that if inflation remains persistent, particularly in wages and the service industry, the Fed probably won't have a choice but to continue raising rates, with funds rates heading near 5%. Roubini predicts huge debt distress similar to the global financial crisis and stagflation similar to that of the 1970s as a result.

Implications of the announced partial mobilization in Russia

In his speech on 21 September, Putin stated that "mobilization events" will begin on 21 September without offering additional information, other than that he had ordered an increase in financing to improve Russia's weapons manufacturing. Financial markets reacted negatively to Putin's comments with oil prices more going up more than 2% and the Russian ruble going down around 2.6% against the dollar. The Russian Duma voted to tighten up Russia's criminal code around military service — including increasing the punishment for desertion and other "crimes committed in conditions of mobilization, martial law, armed conflicts and hostilities." According to the media, Putin is gradually putting the country on a war footing.

Reported gas leaks in the Nord Stream 1&2 pipelines

According to Reuters on Monday, 26 September, gas from the Nord Stream 2 pipeline spilled into the Baltic Sea near Denmark after experiencing a drop in pressure. Danish Prime Minister Mette Frederiksen stated today that inter alia an act of sabotage could not be ruled out, emphasizing that it was too early to draw any conclusions.

According to the Danish Maritime Authority, two of the leaks were near the double Nord Stream 1 pipeline, to the northeast of Denmark's Bornholm island, and one leak was reported near the Nord Stream 2 pipeline off the southeastern coast of the island. According to Swedish media, Sweden's national seismic network detected two distinct blasts in the area on Monday. Nord Stream 2, which is not in operation, was filled with 177 mln cubic meters of natural gas, worth approx. EUR 358 mln at current prices.

Preliminary Assessment

- Economist Nouriel Roubini correctly predicted the 2008 financial crisis. His advice for investors in 2022 was that investors should be light on equities and hold more cash instead. Even though cash is eroded by inflation, its nominal value stays at zero, "while equities and other assets can fall by 10%, 20%, 30%", according to the economist.
- The reaction of EU and US politicians to Putin's speech was unequivocal. The decision to mobilize and the threat of nuclear weapons were condemned.
- After Putin's speech, according to local media, all tickets to Armenia and Turkey were sold out for all upcoming dates, which indicates a new influx of Russian citizens in the foreign countries in the near future. The Latvian government has said it will not issue humanitarian visas to Russians who want to avoid mobilization. Starting from 25 September, several regions of Russia have begun to prohibit men from traveling abroad without a certificate from the military department.



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

Urgent holding of "referendums" in the occupied territories

From 23 to 27 September, Russia has been holding so-called referendums in the occupied regions of Ukraine (Donetsk, Luhansk, Zaporizhia, Kherson regions) for the accession to the Russian Federation. According to Ukrainian and international media, referendums are held without any obedience to international law: people are reportedly threatened with weapons, polling stations are set up right in cafes and on the streets, and the election commission has no observers. The US officials emphasized that the results of the "referendums" in the temporarily occupied territories will be falsified. According to the spokeswoman of the White House, in some regions, the occupation authorities have already determined the specific numbers of fake votes - within 75% for allegedly "joining" Russia. She emphasized that no one in the US recognizes the results of "referendums". This position is also shared by the G7 leaders, who made the same statement earlier.

The estate of Russian oligarch Usmanov in Bavaria is being searched

German police are searching the Bavarian estate of a Russian oligarch, Alisher Usmanov. The purpose of the search is to find evidence in the investigation against Usmanov on suspicion of violating trade laws, money laundering and tax evasion. Unofficially, the publication learned that for the period from 2014 to 2022, Usmanov in Germany could avoid paying taxes on income and gifts for EUR 555 mln. Part of the source of suspicions against Usmanov was the leak of the so-called "Panama Papers" - they show that the oligarch may have hidden significant wealth and profits thanks to offshore companies and a complicated ownership structure of companies. German authorities became more actively interested in Usmanov after he was included in the EU sanctions list in connection with the Russian Federation's war against Ukraine - because he is a person from Putin's close circle.

Surprising prisoner swap between Russia and Ukraine

On 22 September, Ukraine announced that 215 prisoners of war had been released from Russian custody. Several fighters of the Azov battalion who had led the defence of the Azovstal steelworks in Mariupol were released as well. In turn, Ukraine released 55 Russian prisoners of war as well as pro-Russian former Ukrainian MP Viktor Medvedchuk. Billionaire Medvedchuk had been put under house arrest in May 2022 over charges of high treason and illegal exploitation of natural resources in Crimea. Ahead of the Russian invasion, US intelligence identified Medvedchuk as a potential leader of a Russian-backed regime in Ukraine.

Preliminary Assessment

- Reportedly by holding referendums, the Kremlin will officially confirm its control over the captured territories. According to the media, this will allow, in particular, to sue Russia for property lost by Ukrainians and international companies in the occupied territories.
- There have been 3 decisions in international arbitrations regarding the seized international and Ukrainian assets in Crimea, several more cases are in the process of consideration. Two facts were key to these decisions: Russia's direct control over the peninsula, as well as its recognition of Crimea as its own territory.
- Analysts of the American Institute for the Study of War cite several reasons for Putin's desire to hold referendums. As soon as the referendum will be held and the territories will be declared part of the Russian Federation, the Russian authorities will regard the de-occupation of any city by the Ukrainian Armed Forces as an attack by Ukraine on Russia, and will be able to declare war and general mobilization. Experts also claim that Putin can use the "accession" of the occupied territories of Ukraine and, accordingly, the Ukrainian army's counteroffensive against them as an excuse to use nuclear weapons. Another reason for holding "referendums" may be the desire of the Kremlin to replenish its army at the expense of residents of the occupied territories.



An overview of Russian cyber operations.

The Atlantic Council has published a study of offensive Russian cyber operations. Reportedly, while such operations have fallen short of expectations during Russia's war against Ukraine, they have nonetheless continued. According to the study the threat actors Russia uses are varied, and the level of control they operate under ranges from toleration to inspiration to direct command. "Contrary to popular belief," the report says, "the Kremlin does not control every single cyber operation run out of Russia.... This network includes: cybercriminals who operate without state backing and inject money into the Russian economy; patriotic hackers and criminal groups recruited by the state on an ad hoc basis; and proxy organizations and front companies created solely for the purpose of conducting government operations, providing the Kremlin a veil of deniability." There's a tendency for analysts to blur this complexity, and any effective response to Russian cyber activity needs to take this complexity into account.

Current topics

Ukraine's IT Army hacks Russia's Wagner Group

Over 1,500 convicted felons are being recruited by the private military organization to join Russia's war in Ukraine. The so called Ukrainian IT Army has hacked Russia's Wagner Private Military Company, which allegedly recruits Russian inmates to fight in Ukraine. Ukraine's Vice Prime Minister and Minister for Digital Transformation, Mykhailo Fedorov, said in a Telegram message on Monday that the IT Army had penetrated the Wagner Group's website and gathered personal data on its members. The Ukrainian IT-army claimed responsibility on Twitter, saying: "The website of the Wagner group, which recruits Russian inmates for the war in Ukraine, has been hacked by the IT Army!...".

Russian airport websites hacked and published calls for resistance

As mentioned above in the morning of 21 September, Vladimir Putin announced a partial mobilization in Russia. In the afternoon, the websites of the country's largest airports were hacked and on their homepages calls to evade the draft appeared. "Ukraine has already won, the question is how much we will lose." - said the banner published by the hackers. It also contained an appeal to subscribe to an anonymous Telegram channel that collects money for the Armed Forces of Ukraine. Also, citizens of the Russian Federation are urged not to go out, so as not to receive a summons. In case they do get drafted into the army, Russians are called to surrender with equipment.

Russian cyber espionage impersonates Ukrainian telcos to deliver malware

Sandworm, a Russia-linked APT organization (APT: advanced persistent threat, a term to describe an attack campaign), has been seen impersonating telecommunications companies in order to target Ukrainian entities with malware. The APT hacking organization is suspected of being behind a number of attacks this year, including an attack on Ukrainian energy infrastructure and the deployment of a persistent botnet known as "Cyclops Blink," which the US authorities disassembled in April. Researchers from Recorded Future saw an increase in Sandworm's command and control of infrastructure beginning in August 2022. The attack chain begins with spear-phishing mails sent to victims that appear to work for a Ukrainian telecommunications company in an attempt to fool them into accessing malicious URLs. The messages are written in Ukrainian, and the themes of the attacks include military activities, reports, and so forth.

Preliminary Assessment

- According to the media the so called "Wagner Group" is a Russian paramilitary organization, being described as a network of mercenaries or a "private army of Vladimir Putin". Reportedly there are no official confirmations of the existence of the Group. It is allegedly owned and/or financed by Russian businessman Yevgeniy Prigozhin, who reportedly has close ties to Vladimir Putin. Apart from Ukraine the Group has been allegedly active in various other conflicts around the world - e.g. Syria, Libya, Central African Republic, Mali.
- Sandworm (aka BlackEnergy and TeleBots) has been active since 2000, it operates under the control of Unit 74455 of the Russian Military Intelligence Agency (GRU). The group is also authored the NotPetya ransomware that reportedly hit companies worldwide in June 2017, causing billions worth of damage.



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

EU plans new sanctions after Putin's speech with nuclear escalation threat

Following the announcement of the partial mobilisation in Russia and nuclear escalation threats, EU foreign policy chief Josep Borrell stated that there was consensus among EU foreign ministers to implement further sanctions, including measures against "sectors and people," without going into greater detail. According to the media reports citing diplomats, the European Commission plans to discuss its sanctions framework with EU member states shortly. Measures under discussion include a G7-proposed price restriction on Russian oil, listing of additional persons related to the Kremlin, and a fresh crackdown on luxury goods trade with Russia.

US releases framework proposal for new Russia sanctions

On 20 September, members of the Senate Banking, Housing, and Urban Affairs Committee proposed additional sanctions legislation to hold Russia responsible for its actions in Ukraine. The Senators' approach gives the administration new sanctions authority in its efforts to cut off funds to Putin's military. The Senate framework includes inter alia the following points: price cap on Russian Oil (no later than March 2023, the President establishes a price cap on Russian seaborne oil and petroleum products in cooperation with partners, each year thereafter, the price cap is reduced by one-third until it hits the break-even price within three years); "Stop War Profiteering" (imposition of sanctions on nations that increase their imports of Russian oil, oil products, gas, and coal). According to the Framework, sanctions expire after seven years or when the President certifies that Ukraine has established a diplomatic arrangement with Russia that is supported by the United States and that it is in the national security interest to lift the sanctions. The measure includes a national interest waiver for all sanctions, subject to Congressional override.

The EU opposed easing ban on the transportation of Russian coal

According to Bloomberg sources, EU members such as Poland and the Baltic states have criticized the European Commission's proposals. They fear that this weakens sanctions and may actually allow the import of sanctioned Russian goods.

Preliminary Assessment

- The EU Commission is planning further sanctions against Russia like a price cap for Russian oil, limitations to luxury goods trade, and listing further Kremlin-linked individuals.
- Senators Van Hollen and Toomey previously worked together on North Korea sanctions legislation, the Otto Warmbier BRINK Act, (which was signed into law in 2019), and sanctioning provisions related to the Hong Kong Autonomy Act (which was signed into law in 2020).
- According to the new guidelines of the European Commission, which are currently under discussion, the transportation of certain goods from Russia, in particular coal and related products, "should be allowed to overcome food and energy insecurity in the world."

General remarks



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