

Center for Strategic and International Studies

TRANSCRIPT

Event

Conflict in Focus

Land Domain Lessons from Russia-Ukraine

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FEATURING

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Lieutenant General (Retired) Ben Hodges

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Colonel Scott

In war, land is decisive. Nowhere is this more important than in the

Pence:

Russia-Ukraine war. Welcome to the Land Domain Panel of our series Conflict in Focus: Lessons from Russia-Ukraine.

(Music plays.)

I'm Colonel Scott Pence, the U.S. Army military fellow here at CSIS. And I am joined by a panel of experts today. They're Dr. Ben Jensen, Retired General Ben Hodges, and Ukrainian Minister of Parliament Colonel Roman Kostenko.

Before we begin our discussion, let's describe the operational context of what we're dealing with today. I'm using an interactive map from the Institute for the Study of War. And they have several interactive map products to understand the Russia-Ukraine war on their website, UnderstandingWar.com-org, excuse me.

This map is the Russian control of terrain in Ukraine map, and has been updated daily with street-level assessments of the war. The map starts with the Russian-controlled territories from the 2014 limited incursion. We can see here Crimea and the Donbas.

We're looking now at 23 February 2022, as indicated at the bottom of the map. On the next day – on 24 February 2022 – Russia invaded Ukraine along several axes: one from the north, from Belarus, toward Kyiv; an eastern front from the Donbas, toward Kharkiv; and a southern front from Crimea, toward Kherson.

By April, we can see their forces retreated from the outskirts of Kyiv due to stiff resistance, the failure to seize Hostomel Airfield, and logistical challenges.

In May of 2022, Russian forces captured Mariupol in southeastern Ukraine after a three-month siege. This secured the land bridge connecting Russia to Crimea.

By September of 2022, Ukrainian forces reclaimed nearly all of the northeastern region of Kharkiv. By November of 2022, Ukrainian forces recaptured the city of Kherson. This will prove to be the last shift in the position of the frontlines before the war settles into intense attritional warfare.

In February of 2023, Russia launched a new offensive in western Luhansk but failed to make rapid progress. By May Russian forces finally captured Bakhmut, suffering an estimated 100,000 casualties including 20,000 deaths.

In June of 2023 Ukraine launched a much-anticipated counteroffensive to recapture Russian-held territory including Bakhmut and southward in Zaporizhzhia, but faced stiff Russian defensive positions and failed to achieve a breakthrough.

As we can see from the map during mid-2023 all the way to mid-2024, the lines remain static, marked by bitter trench warfare.

Not featured – because this map tracks Russian incursions only – in August of 2024 Ukrainians launched the surprise Kursk incursion into Russia, seizing the town of Sudzha.

Ukraine’s defensive line spans 1,000 miles, or the distance from Washington, D.C., to Salt Lake City. The line of active contact is roughly 500 miles long, or the distance from Washington, D.C., to Atlanta.

According to a 23 January New York Times assessment, there are currently more than 400,000 Russians facing about 250,000 Ukrainians on the frontlines. And the gap between the armies is growing.

With that operational context, the goal of today is to take a moment to look at the character of this war and discuss its implications for future warfare. I was able to interview Colonel Roman Kostenko from the CSIS studios to his location in Kyiv, Ukraine. Colonel Kostenko is a minister in the Ukrainian parliament as well as a colonel in the Ukrainian army. A graduate of the Odesa Military Academy, he’s a veteran of the 2014 conflict and also, in 2022, he formed a unit that recaptured his hometown just outside of Kherson – and actually, he called the most important of his life. He has firsthand experience in the 2024 Kursk incursion, which he famously refers to as the “business trip.” Meanwhile, he’s one of the authors of the bill in the Ukrainian parliament which mandates the recruitment of soldiers in the – to the Ukrainian army.

In this first clip, I asked him about what Ukraine needs most from the West.

(Note: Colonel Kostenko’s remarks are through an interpreter.)

Colonel Roman
Kostenko:

If you’re expecting me to say that Ukraine needs just one specific type of weapon to secure victory, I won’t say that. Victory requires a combination of efforts.

We do require constant, uninterrupted supply of weapons, both tactical and other types, to support the fighting in the battlefield right

now. However, that alone will not be enough.

When I say we need a diverse range of approaches to achieve victory, I mean not only a military approach but also a diplomatic one. I would like to emphasize something very important here. When I talk about a diplomatic approach, we need to ensure that everyone in the world understands and shares the desire to defeat Russia, not merely to stop the war. These are two distinct goals that I want to highlight.

So we need and are currently employing various types of support and weapons provided by our allies. It's crucial to assess the battlefield and ensure a continuous supply for our troops.

What I see right now is that Russia has instilled fear in everyone, including some of our allies, to the extent that they now want to stop this war at any cost no matter how, no matter what. They fail to understand that ending the war is not the same as defeating Russia. This is a critical mistake because in the near future those same allies and countries may have to send their own people to fight Russia and sacrifice their own soldiers in the war that will inevitably continue.

Col. Pence: And our next panelist is General Hodges, coming to us from Frankfurt, Germany. General Hodges, you served in the U.S. Army for 38 years commanding at all levels and culminating with your command of U.S. Army Europe. I should note in full transparency that I served in your command in 2015 and you promoted me to lieutenant colonel. You hold the Pershing chair in strategic studies at the Center for European Policy Analysis and served as NATO's senior mentor for logistics. You also coauthored the book "Future War and the Defense of Europe," which we have here.

From that experience and your research, what do you see as the biggest challenge Ukraine faces in the next six months?

Lieutenant General Ben Hodges (Ret.): Well, Scott, first of all, I don't know how your promotion slipped through the net –

Col. Pence: (Laughs.)

Lt. Gen. Hodges: – but somehow you avoided capture. (Laughs.) So thank you for reconnecting.

The biggest challenge, I think, is confidence in Ukraine, because they've got to be wondering: What is the United States going to do? What is the rest of Europe going to do? Are they going to be traded

away for some grand deal or are we going to commit to helping them either defeat Russia – which is entirely within our ability to do if we had the political will – or are we going to force them to accept some kind of a settlement for the – for the sake of peace, to get – to stop the fighting, as we – as we hear? So the biggest challenge for them is to – is to help convince the Trump administration and other European governments why it's in our interest to help them to defeat Russia.

Col. Pence: Thank you, sir.

And coming up we also have Dr. Ben Jensen with us. You're a vet yourself, a lieutenant colonel in the U.S. Army Reserve, and you're a senior fellow here at CSIS. You're also the Frank E. Peterson chair for emerging technology and a professor of strategic studies at the Marine Corps University. You have authored five books, the most recent of which is "Information at War: Military Innovation, Battle Networks, and the Future of Artificial Intelligence."

What new innovations had the most impact on land warfare in Ukraine?

Benjamin Jensen: So thank you for having me. And it's an honor to be on a panel with General Hodges, who I'm a huge fan of. So I won't fanboy too much; we'll focus on war.

I think the most important innovations are actually the soft ones, meaning how you build systems that are able to adapt as multiple technologies come in. As you were listening to the lieutenant colonel from Ukraine, the parliamentarian, speak, there's rarely super weapons; there's often super soldiers. And super soldiers are a function of training and discipline and how you adapt people to different combinations of combined arms. And I think that innovation right there, rapidly being able to turn civilians off the streets into some of the most lethal fighting formations we've ever seen.

Russia, I think, as of today has passed 10,000 tanks that are destroyed. The vast majority of those, increasingly, were by someone who wasn't fighting before that firing a Javelin when you and I would struggle to get time to fire a Javelin on our training ranges, and then even more by weapons we didn't imagine before the war started – the FPV. So it's not any one innovation. It's these creative combinations, and then building those formations that are able to adapt them in contact. The challenge with any technological innovation in that is how do you actually turn those tactical engagements into consolidated gains and that larger campaign transition.

So I think we've seen brilliant tactical innovation from the bottom up, and it hasn't been the stuff that the Americans or the West has been given. It's what Ukrainian engineers have kind of MacGyvered together on the battlefield. But the hard part of that now is building that into not just a tactical system, but an operational system.

Col. Pence: And that –

Lt. Gen. Hodges: Scott, can I – can I interrupt?

Col. Pence: Oh, yeah. Go ahead, sir.

Lt. Gen. Hodges: Dr. Jensen said maybe the most important thing we're going to hear today. He talked about super soldiers. And I do worry there's so much emphasis on technology and drones and all that that we are losing sight of the fact that, ultimately, it's about women and men who are properly trained, properly led, and determined to win. And so this is where Ukraine, I think – is why they've been able to do what they've done despite Russia having all the other advantages. So I'm glad, Ben, that you brought that up.

Excuse me.

Col. Pence: During my interview with Colonel Kostenko, he described the difference between the Zaporizhzhia campaign and the Kursk incursion.

Col. Kostenko: Personally, I think we could discuss each specific instance separately, Zaporizhzhia and Kursk operations.

However, I want to talk about Kursk. In my opinion, this was an incursion of historic magnitude – not only historic, but also of significant geopolitical importance overall, both from geopolitical and tactical perspectives. This is an example of what I call asymmetric actions. Instead of focusing our forces solely on fighting in the current territories, we redirected them into Russian territory. As a result the enemy was forced to relocate and position its forces there, providing us with strategic advantages on the battlefield in Ukraine.

This gave us good reactionary activities from the Russian forces. They were now forced to use their forces on their own territory, which led them to destroy their own cities and villages with their own equipment. They had to pay close attention and reposition themselves, dedicating significant resources and forces there.

Col. Pence: I'll give you both a chance to answer. I'll start with Dr. Jensen. What is the significance of the Kursk incursion?

Dr. Jensen: Well, first, I think the significance of Kursk was laid out very well by him. We showed that you can restore mobility even on a static firepower front with persistent surveillance. So just like you had to have innovation in World War I to overcome what they called a firepower-intensive front, actually, in Soviet doctrine through the use of assault troops in creative combinations, you had a similar problem in Ukraine: How do you actually – with constant drone coverage, without air control, and facing an enemy that has a superiority both in tube and rocket artillery both by numbers and by volume of fire, how do you actually penetrate that line? Is it infiltration? Is it penetration?

And I think the major difference actually goes back to a concept of maneuver warfare called surfaces versus gaps. At more of a tactical to low operational level, Kursk was actually a gap. It turns out it wasn't as heavily defended as initially believed, which the Ukrainians validated through a mix of strategic intelligence and good old-fashioned soft patrols and infiltration; whereas the, you know, Zaporizhzhia front was a surface. Surovikin had built constant layers and layers that would resemble something like some of the famous gothic lines that you saw Germans build in Italy that were so difficult to penetrate in the Second World War. So even before the political genius of the Kursk campaign, I think as a soldier you look at it as a surface versus gap.

And in – hindsight's 20/20. Shame on us for pushing the Ukrainians to attack a surface and for not trying to find that gap. So why Kursk was important is it reinforces that key tenet of maneuver warfare: always attack the gaps, exploit, shock, and dislocation. And they did that effortlessly, combining, again, drones, electronic warfare, and using it to then create mobility corridors that they could fan out and then transition offense to defense so that now they're actually killing Russians who are counterattacking in a masterful demonstration of what we call engagement area development – creating areas where Russians come in, and you have a mix of obstacles, direct and indirect fire, that allows a smaller mobile force to defeat a very large opponent.

Col. Pence: Thank you very much, Dr. Jensen.

General Hodges?

Lt. Gen. Hodges: Hard to improve on that, and it's been a while since I've heard such a good description of gaps and surfaces. So, ben, thanks for reminding

me of that. That's exactly what we saw.

I think that two or three things about this Kursk – and I call it a counteroffensive – that was most impressive was that, number one, the fact that they could achieve surprise on multiple levels, despite Russia having a gazillion drones and it being inside Russian territory. How did Ukraine build up that kind of capability right there and be able to achieve that sort of penetration, without getting hammered or disrupted by Russian forces? So that tells me that Ukrainians have improved significantly their ability to counter drones, to perhaps blind drones or create some sort of a way to still maintain security, even though Russia would have so much in the air.

Secondly, it also highlighted the fact that Russia still has not sorted out their command and control challenges. I think border forces generally fall under the FSB not the general staff. And the FSB and the general staff hate each other. And so unsurprisingly it doesn't seem to have been very good coordination, or cohesion, or cooperation between border forces and Russian general forces elsewhere. And of course, the general staff, they're the ones fighting in Donbas, the Russian troops there, trying to – in their ages-long effort to get all the way from Avdiivka to Pokrovsk, would not be in a big hurry to help the FSB which is now facing big problems in the Kursk area.

It also created a problem for the Kremlin at the strategic level, this dilemma that Colonel Kostenko mentioned. Do you divert troops from somewhere else to deal with this? Or do you just kind of hope it goes away? Eventually, after months, they had to respond to it because, I mean, even in Russia they could not conceal the fact that this was happening from people in Moscow, and St. Petersburg, and elsewhere. And so while the Russians have finally after – I think we're close to seven months now – have managed to eliminate a large portion of that Ukrainian bridgehead inside the Kursk oblast, they still haven't managed to eliminate it, while suffering thousands of casualties in the process and not being able to focus their efforts in the Donbas area.

So I think the general staff did a superb job of assessing the risk. They looked at what was happening in the Pokrovsk direction and can see that the Russians don't have the ability – at the time – and still don't have the ability to break through and just overrun Ukrainian forces. Yes, of course, they have the ability to continue to attrit, to move. But it's been almost a year since Avdiivka and it's only 60 kilometers from Avdiivka to Pokrovsk. And the Russians have not been able to close that 60 kilometers yet. So I think a prudent risk at the strategic and operational level by the Ukrainian general staff so that they could put together forces to launch this counteroffensive into Kursk. And I think,

you know, years from now, as we're looking back and studying this thing, we're going to see this Kursk operation, I think, as a brilliant stroke, and something that may have helped make the difference.

Col. Pence: It might be looked at as a brilliant stroke. It definitely is looked at achieving surprise, even surprising their closest Western partners. Dr. Jensen, you study operational art, you teach it at the Marine Corps University. What is it like to campaign in Ukraine?

Dr. Jensen: Well, we're going to nerd out here because I think between three soldiers we could talk for hours about operational art. So I think the most interesting thing for me is both sides have struggled to sequence tactical actions in a meaningful way. And I think it gets back to some very interesting character of planning in former Soviet states and also relates to fundamental command and control issues. And so a campaign, by definition, should be longer, it should be a broader front. That requires more synchronization. And the more you have to synchronize, the more important it is to look at authorities and who reports to who. So we get our C2 wire diagrams, we're task organizing. All of that professional-speak for how are you building the team for the entire season, not just the game?

And when you think about it like that, one of the campaign challenges that really jumps out is – I'll start from the Ukrainian side – is they essentially lack a culture of division- and corps-level command and control entities. And what that means is you essentially have multiple brigades, often 20-plus, reporting up to what's called an OTF. So it's their equivalent of, like, think an operational front, or what we would call, like, almost in our – in the U.S. Army, a theater army. So it would be the equivalent for us of fighting brigade combat teams, but without a division. Sometimes a corps, but often not, but a theater army.

And what that tends to do is means that brigades often have difficulty kind of concentrating combat power, which you need to do in the defense – whether it's localized counter attacks or denying the adversary the ability to exploit a breakthrough, even though the Russians have struggled with that. And so that missing layer makes it difficult to actually sequence tactical actions in a meaningful way. It leads to inefficient use of resources. It creates a series of assault groups that are used to plug the line, which often burns out your best and most experienced soldiers and creates real issue with troop replacement.

So that's the command and control challenge of campaigning on the Ukrainian side. On the Russian side, they have those structures, their combined arms army. But a mix of death, great Ukrainian targeting

campaign, but also corruption, palace intrigue, has meant they quickly rotate leaders in a way that makes it difficult for them to sustain what is essentially multiple campaigns simultaneously – the large Donbas campaign simultaneous to the campaign to retake Kursk. And as General Hodges mentioned, that's compounded by politics. War is always an extension of politics, and politics often imposes a series of limitations upon campaign design – whether it's restraints or constraints.

So that's the kind of major campaign dilemma that I think most people miss, is how do you command and control it? How do you build the team for the entire season, not just the game, so that you can actually begin to meaningfully task, organize, and seize what are often unpredictable opportunities or unforeseeable risks, because war is a complex system.

Col. Pence: That's terrifically insightful.

And then, turning to General Hodges, you mentioned the – we've been watching a lot of your interviews recently. And you sometimes mentioned the importance of the will to fight. How important is that in warfare in general? And how has the Kursk incursion affected this will to fight?

Lt. Gen. Hodges: I have to imagine that Ukrainian soldiers and Ukrainian people were heartened by what was achieved with this Kursk counteroffensive. You know, every commander wants to get the initiative at every level. You want the enemy reacting to you, not you always worrying about what they might do, or reacting to what they do. And so here was an operation by the Ukrainians that took the fight literally into Russia. And Kursk is not just any Oblast. I mean, this is a place that has almost religious significance for Russians. And now you've got Ukrainians are in there, dug in from more than six months.

And I'm thinking that people would have taken heart from this. This changed the whole narrative of the invincibility of the Russians, the inevitability that Russia is going to win, Ukraine is going to lose. And it also, of course, when you start talking about negotiations – which I'm not advocating that they should hurry up negotiate. I would advocate that we should be helping Ukraine win. But let's assume it looks like there's going to be some negotiations. This is the problem for the Russians now, that if the start point is the line of contact that means a part of Russia is under Ukrainian control. And so this has given them some leverage that I think also affects the will at different levels, because they know they have something useful.

Now, I'm not going to be – I'm not naïve. If you're a soldier defending Pokrovsk, you know, your life still sucks. And it doesn't get any better anytime soon unless there's some remarkable change. So this is – this is where leadership is so important at every level.

Col. Pence: And, switching gears, I want to make sure we capture the role of the North Koreans on the battlefield. In late 2024 we saw the insertion of North Korean troops on the Russian side. I asked Colonel Kostenko about the role of North Koreans and his thoughts on that.

Col. Kostenko: What I can say about the North Koreans is that they are very good soldiers. They are very well trained. But the way they are trained reflects the methods of warfare from the 1960s and '70s. They are not as well equipped for modern warfare. What we observe is that the North Koreans typically act on the battlefield by lining up in large formations. They tend to advance in a way that reminds us of the tactics used during the Soviet times, where soldiers were trained to line up and move forward. This makes them very easy targets for modern drones which can easily spot and destroy them. The Russians are aware of this, but for some reason they don't train the North Koreans to avoid forming those lines or, at least, not to advance in such a predictable way to avoid being targeted by drones. We don't know why.

Col. Pence: Dr. Jensen, what should we take from the insertion of the North Koreans into this conflict?

Dr. Jensen: Well, I think I'd break it down first from the strategic to the tactical level. We don't want to admit this, but we're already in World War III. We have North Koreans fighting inside Russia trying to kill Ukrainians, and many of those Ukrainians are trained and equipped by NATO countries and other free people around the world. We have Russians using Iranian ballistic weapons. We have Russians setting up – using smuggling routes and now, increasingly overtly, Chinese drone components. So we think there was a clean day when World War II started, but it wasn't. It was a different date for each country when we look back. So I think at the larger level the significance is this just reinforces that this is the early stages of World War III. And hopefully we can off ramp it before it goes further.

Second, at the operational and tactical level, this just reminds us that coalition warfare is hard. And if you don't take time to build interoperability with the partner – and interoperability is both technical, procedural, and personal. You have to know the people. You have to know their procedures. And you have to have kit that talks to each other. You end up with really bad operational boxes that you

draw, where North Koreans do swarm attacks here, Russians fight here. And we've often had to do that with our partners even, but we've learned that you have to invest that time and energy to build interoperability through security cooperation, repeated exercises.

So I think at the operational level and defense policy level, even higher up, it shows that just because you can get 10(,000)-12,000 North Koreans and a bunch of missiles doesn't mean it automatically increases your combat power. In fact, it shows that North Koreans have been pulled off the line because they've suffered such heavy casualties, and now they're increasing their shipments of heavy artillery pieces.

At the tactical level it also shows us that some of the discourse around lethality that we're hearing in the news now might be slightly flawed. I'm not fully convinced that modern lethality is the most physically fit stud muffin killing the other most physically fit stud muffin. I'm not saying we sacrifice training and discipline and physical fitness in our formations. I'm saying that the North Koreans, who are insanely physically fit, are getting killed by people who probably wouldn't sometimes pass our own army physical fitness test with the drone. So I think it also is a moment to pause and think about what actually generates real battlefield lethality in 2025.

Col. Pence: General Hodges, your experience in Europe and coming from that perspective, what do you make of the North Korean insertion?

Lt. Gen. Hodges: I love what I just heard from Dr. Jensen, by the way. The North Koreans are probably the most un-woke army in the world – (laughter) – and yet, they are being hammered by Ukrainians. I've always thought that the best organizations and best institutions and the best units were learning organizations. That, you know, were able to adapt quickly and could learn and put those lessons into effect. And I don't see that in the culture of the North Koreans and, frankly, in the average Russian unit I don't see it either. Which is not to say that every Ukrainian unit is flawless and perfect. Far from it.

But I think that the Russians never intended to use the North Koreans for anything except as additional fodder that can do a gazillion push-ups. So I'm wondering how does the North Korean government look at this? As long as the Russians are paying them whatever the – whatever the agreement was, so money, or technology, or cheap energy. Whatever it is, as long as that keep keeps coming I don't imagine Kim Jong-un is going to shed a lot of tears for soldiers that are killed. But, you know, we know so little about what goes on inside North Korea I can't predict how this goes in the future.

I do see opportunity for us, though. What a great time to launch a big snap exercise in South Korea, with the U.S. and ROK army troops and others, to remind Kim Jong-un about the southern half of the peninsula. And so the more ammunition he sends away, the more troops he sends away to Russia, increases his vulnerability. Not that we're ever going to attack, but he should be worried that we might. And I think at the strategic level I hope, and I imagine, that people are considering, how can we do that? It would also, by the way, undermine what Russia is doing.

I should add that both Colonel Kostenko and Colonel Dutko, who I interviewed a few weeks earlier, noted that they were worried about the Korean Peninsula, and that the North Koreans who do go back and survive and teach what they've learned on this front, they will be a better army if they adapt – if they're able to adapt.

Dr. Jensen: Let me just make one point, something really powerful the general said. That the secret sauce of free peoples is the open exchange of information. And if you can't exchange information, you can't learn. So I'm actually not so confident they are going to go back and be able to share anything. They're probably going to be paraded around telling lies about how many Ukrainians and Americans they killed. Who knows what crazy stuff is going to happen. It'll be a propaganda circus. So I think sometimes we lose sight, in this era of kind of democracies versus authoritarians, but the authoritarians have a fatal flaw. They don't trust their own people. And that means you can't learn, or it's difficult to learn, and difficult to exchange information.

Col. Pence: That's very fair. I want to transition now to the role of tanks on the battlefield. Many people have looked at the Russia-Ukraine conflict and determined that the era of tanks is over for good. That the level of sophistication and lethality of drones have made them no longer useful in modern warfare. Here's what Colonel Kostenko said about this question.

Col. Kostenko: So back in 2014 I remember the days when tanks were used exactly for what they were designed for, especially at the Donetsk airport. I recall times when tanks would be used to force the enemy to hide or retreat. I remember when we were defending the airport and whenever someone would hear the word "tank," we would immediately start looking for a way to hide from it.

In 2022, after the full-scale invasion, we didn't have established defense lines yet. And Russia assumed that tanks would be used for the same purpose they had been used for in the past. With the

development of drones, everything has shifted and changed. Tanks can no longer be used in the same way they were before because as soon as a column of tanks lines up within the gray zone they become an easy target. Even a single tank or multiple tanks become almost useless once drones are involved.

Col. Pence: I'll start now with General Hodges, who's committed many elements of combined arms formations. What do you see as the role of tanks on the modern battlefield?

Lt. Gen. Hodges: Well, I'm going to say, as an infantry officer – I'm not a tanker, so this is not home cooking – (laughter) – I always want mobile protected firepower in my formation. I think every commander wants what a tank gives. Now, does it have to weigh 75 tons with a crew of four? You know, perhaps not. Eventually we'll get away from that. But the fact is you need mobile protected firepower on the battlefield.

And every video I've ever seen of drones blowing up tanks or armored vehicles, those vehicles were sitting out in the open where Ray Charles could have found them. (Laughter.) And they appear to be abandoned. So it is definitely the end of poorly trained, poorly employed tanks – absolutely. But I don't know that we want to learn the lesson of no more tanks. Just as we talked about earlier, what the Ukrainians were able to do, mass large armored formations that made this counteroffensive into Kursk. So let's make sure we learn the correct lessons.

Now, we do have a problem in Europe with weight of the Abrams, the German Leopard, the British Challenger. They're enormous. And particularly in Eastern Europe the bridges, the infrastructure just cannot handle that. And so, you know, to be able to have mobile protected firepower in Europe, we've got to come up with solutions. Maybe turrets that are unmanned, so you can reduce about 20 tons of steel that's required to protect the crew, for example, other things. But I always want that mobile protected firepower.

Col. Pence: And the U.S. Army is beginning to field the M-10 Booker tank, which is a lighter tank. It's not a light tank, but it gets at some of those lighter requirements.

Dr. Jensen, what are your thoughts?

Dr. Jensen: So he hit the nail on the head with mobile protected firepower, and I think always throughout war, even from the invention of the tank forward, what is a tank actually changes, and even the way we imagine integrating into combat formations will change, as you know

as an armor officer.

And so I actually think the new way to think about it is now mobile protective effects. What if we were to imagine not just the unmanned turret? But one thing that the tank does really well is it generates a lot of power.

That is a massive engine which creates fuel challenges but it's a really good engine, and everything that we need from modern combined arms which involves electronic warfare and drones requires power. Power is your limiting factor in both electronic attack and electronic protection as well as use of drones.

So I think we're on the cusp, if we're willing to be creative, of really reimagining what that track beast does. The fury of the next war might be unleashing fiber optic drones that are actually – which we had designs on this in the Army since back in the future combat system – that are tethered to the tank that'll be able to generate its own power for electronic attack or creating kind of signature bubbles that allow troops to operate.

So I think if we were willing to be a bit more creative and then always go back to sound tactics. Armor doesn't fight alone. It fights with infantry under the umbrella of air defense and other force protection measures so that you can continually generate combat power tempo and then seize the initiative.

Col. Pence: Really good feedback and insight from both of you. Thank you.

I want to look at now the idea of a transparent battlefield. I asked Colonel Kostenko what he had to say about the role of drones and satellite imagery, what that led to, how we fight wars now.

Col. Kostenko: I would say that it's no longer just an appearance or illusion that the battlefield is transparent. It is fully transparent, and it is not only Ukraine that is using space and satellites. Russia does the same. This is what makes the battlefield transparent for both sides.

Rapid advancement or incursion is almost impossible in the current reality of the war because everything is so visible and transparent. I'm not talking about underdeveloped or third world countries that aren't as equipped as Russia to detect such movements.

Russia, however, is well equipped to detect these advances. We're not talking about large army advances anymore like those in World War II. Rapid incursions or surprise attacks are only possible at the level of

a couple of brigades or something smaller.

Col. Pence: Dr. Jensen, I'll turn it over to you for your comments on how transparent is today's battlefield and what can we expect in future warfare?

Dr. Jensen: So this is a trend I think you've seen emerging for a long time and, frankly, we've developed techniques in the long war through high-value individual targeting and, you know, find/fix/finish. All these targeting methodologies that we've developed were based upon having persistent overhead coverage, electro optical sensors – a lot of what you saw in those images that people need to remember. It's not just seeing something like a picture. Heat signatures are your best friend if you want to do targeting, and there's other things.

So as the cost of all these sensors has come down each professional military has come up with ways to be able to see, and if they can be seen they can be hit and if it can be hit it can be destroyed. So I think that's the fundamental reality we're confronting.

Now, I actually think you can still generate surprise like we saw in Kursk and that there are ways to fight on that persistent ISR battlefield and I think the most important thing is to go back to sound principles of OPSEC, signature management, and both active and passive denial, and I think the biggest lessons we need to take from this especially as the Army that we've all served in we just don't have enough decoys. We don't have a culture of creating decoys. We don't have a culture of training with decoys.

Usually when you say deception in a U.S. military formation you're told to be quiet. That's compartmentalized.

Col. Pence: It is.

Dr. Jensen: Somebody else is building the deception plan. You shouldn't think about it. That is a broken culture.

We should be practicing feints, ruses, displays at the tactical level – TAC-D, not MILDEC – and then build in the equipment so that soldiers don't have to improvise decoys, that every one of us comes with multiple low cost multi-signature decoys.

Because I'll tell you, having done targeting you create a tremendous intelligence tax on your adversary with decoys because even if it's not a good decoy I don't know that and my confidence is low enough I'm going to have to task an additional ISR asset to confirm or deny.

So the only way to survive and even gain the initiative on that transparent battlefield is through that larger process of kind of deception, operational security, active and passive denial at echelon, and building a culture of cunning and guile.

Col. Pence: What comes to mind is that the actions at Hostomel Airport, where they actually printed out large pictures that looked like hangars had been destroyed, and they put them over the hangars, and it was hard to see from overhead imagery that they were actually still there. And they had the Russians actually wondering if they had buried their aircraft somewhere.

General Hodges?

Lt. Gen. Hodges: I would only want to echo a couple things that Dr. Jensen just said so well.

Deception has got to be something that's baked into the plan, not hey, give me some of that deception stuff, you know, as a hood ornament. It's got to be part and parcel, and that really does come from cultural training, mindset, and that's just not – (inaudible) – because we've always had such overwhelming advantage in terms of airpower and firepower that we didn't develop that as core competency. Which is not to say the individual leaders of the units are not good at it but I think this is an area we can learn a lot from the Ukrainians.

And then from the technical side I love the phrase signature management. I first heard that from a guy at Saab that made the camouflage for vehicles and he talked about a signature management, and then I just heard Ben use it.

There are technological advances particularly just in the fabric for uniforms that significantly reduce signature, and I think these are the kind of things that are going to help us protect our soldiers but also protecting vehicles so that a tank or armored vehicle or Howitzers that are out there that are protected from not only visual observation but their heat signature and so on.

The technology is there but it still requires discipline. You can't just toss a tarp over something that's disciplined and dispersion, and you have to practice this stuff in our training centers.

Col. Pence: I've got two more questions we'll get to and the first one for Dr. Jensen.

What are we learning about to understand the relationship between indirect fires and maneuver in this conflict?

Dr. Jensen: This is a core question for all of us has, you know, military professionals who fight in the land domain. So I think there's a couple different lessons.

One – and I'm going to go more tactical first – is that modern combinations of direct and indirect fire require electronic warfare/electronic protection. So the Russians were quickly able to thwart a lot of the gains the Ukrainians were making with HIMARS just by actually jamming GPS signals.

So GPS has known frequency bands. Even when you adapt you still can find where they're emitting. So they were able to create these little kind of electromagnetic bubbles that actually made it – essentially turned a very exquisite expensive long-range missile into a dumber-than-dumb old artillery round, and do the same thing to Excalibur rounds.

Col. Pence: Excalibur. Right.

Dr. Jensen: And so I think the first lesson is your electronic attack and protection has to be so fluidly built into your fire plan to be able to support maneuver, and I know there's a huge debate in the Army coming now, given the long-range fires and all of these effects, is it no longer fire in support of maneuver. Now it's maneuver in support of fire. I think it's too early to say that. But that's the first lesson.

The second lesson is I am still not convinced Russia, despite being a fire-centric formation, is actually conducting proper operational level fire synchronization. What I mean by that is higher level headquarters – those three-star, two-star combined arms armies equivalent of our corps – are shaping in the deep fight, setting conditions through long-range fires to allow their direct forces, the division, then down to the brigades to close.

That means that attritional war takes an even higher tax because the command and control of the Ukrainians is in place. They can vector drones. They can move in reinforcements.

So I think one of the reasons for that is they're not as good as advertised, what we grew up to believe; and, two, there's some disconnect – and it might be institutional, political, cultural – between who controls what we would call operational fires assets – so those longer-range ballistic missiles and cruise missiles – versus who's in

charge of the ground campaign. And so that means – the other lesson now more at the operational level, is there is – it's going to be very costly and bloody to create any type of breakthrough unless you have brilliant deception, like Kursk, or you're able to create that kind of operational fire, synchronized with key maneuver corridors to actually conduct a large-scale offensive.

Col. Pence: And General Hodges, of course you're able to respond that that question I gave to Dr. Jensen about indirect fires and maneuver. But for you, my final question to you is endurance. Endurance is a critical function of warfare. Given the manpower challenges, the defense-industrial base, and Western support, does Ukraine have the endurance to prevail in this war?

Lt. Gen. Hodges: OK. Well, let me accept your invitation to address what Dr. Jensen just said, too.

Col. Pence: Yes.

Lt. Gen. Hodges: I agree with everything he said, but I was reminded of something General Cavoli said earlier in the war. He said, you know, you can defeat Russia's only advantage of mass with precision, if you have enough time. And of course, what he was talking about is knocking out those headquarters that coordinate the fires –

Dr. Jensen: Right.

Lt. Gen. Hodges: – knocking out the actual guns, and knocking out the logistics, you know, all the ammunition. So if the Ukrainians had – this is why I was so frustrated that we were hesitating to give them ATACMS and other long-range precision strike capability – you take away those headquarters, then it doesn't matter how many unlucky, poorly trained infantry they have out there because there's nobody to coordinate the fires that are necessary, there's no guns, and the disruption of the ammunition that they need. You could do that with precision. And it's not too late, but God dang it, it should have happened a long time ago.

I also was reminded – I had the privilege when I was a captain and a small-group instructor at the infantry school at – back then it was Fort Benning, and General DePuy had been selected to receive the Doughboy Award.

Col. Pence: Oh, wow.

Lt. Gen. Hodges: And so I was his escort for the day. And man oh man, I got tortured all day long by – you know, the founder of TRADOC basically was drilling me on Army doctrine and tactics and all that. (Laughter.) But he described his experience in World War II as a battalion commander, and he said it was the job of infantry battalions to move forward observers across Europe.

Col. Pence: Right.

Lt. Gen. Hodges: So it was an early example of maneuver supporting fires, to get the observers in place so that they – so that we could bring to bear the massive artillery advantage that the United States had over the German Wehrmacht.

To the question of endurance – this is tied a little bit to the will question we covered earlier. Clearly Ukraine is in a difficult situation given the casualties they're suffering and giving the willingness of Russia to absorb casualties, because Russia's decision about victory is not based on losses but based on their belief that we're going to quit. So it really comes down to the endurance of the West: Do we have the will to continue supporting Ukraine?

Now, we hear a lot about Ukrainian manpower shortages. I actually don't think they have a manpower shortage; they have a soldier shortage. And I'm not trying to be clever, but the fact is there are tens of thousands of Ukrainian women that could be serving or could be better utilized, the way that women serve in the U.S. military or the other militaries. I'm proud of where – it took us a long time, but we got to a place where women are serving in every part of the U.S. Army. I don't want to say it's without challenges or that everybody is doing it perfectly, but we needed that talent. Ukrainians need that talent. And I've spoken to a lot of Ukrainians about this, and they still have a very, let's say chauvinistic view of women. Of course there are thousands of women in service, but they're not being used everywhere that they could be more effectively utilized.

And I think also it's not our business what age Ukraine decides to draft soldiers. That's a cultural thing for them. I think, though, that inside the Ukrainian military you've got a new Ukrainian army and you've got a Soviet army inside the Ukrainian armed forces. And I think a lot of families still believe – they envision that Ukrainian army as the old Soviet prison army, and they're reluctant to sending their son or daughter or brother or whatever to join the armed forces. They're not confident that that young man or woman at the age of 26 or above is going to be given proper training and equipment before they get sent off to the front. And this is the job of government to

regain the confidence or earn the confidence of Ukrainian families that their son or daughter will not be sent to the meat grinder but they will get proper training, proper equipment, and get put into a unit that is ready to fight. That's how Ukraine is able to fight for as long as they need to.

And by the way, recent polls say that more than 60 percent of Ukrainians are not in favor of any sort of negotiation where they give up territory. So the endurance of the will still is incredibly strong, because they're talking about survival. They know what happens when the Red Army shows up in their village.

Col. Pence: You bring up an excellent point about the role of women and women at war in this conflict. And I should note that the next – one of the other panel discussions is about women at war. We're partnering with the Smart Women, Smart Power program here at CSIS, and we'll have that in the next couple weeks.

I want to turn now to closing comments by Colonel Kostenko to make sure we capture that before we go.

Col. Kostenko: There is a difference between ending the war and ensuring Ukraine's victory in this war. Right now we receive support from our allies and partners with strategic defense, but that's definitely not enough to give us an advantage in ending the war. To end this war Ukraine needs to come with much more strength, because right now we don't have enough to achieve victory. We have just enough to sustain strategic defense, but that needs to change. I believe that if we receive enough of what we need to secure Ukraine's victory, the U.S. will have a clear path to making Russia capitulate.

Col. Pence: We'll now turn to Dr. Jensen.

Dr. Jensen: So, I think the future of this war – and all wars do come to an end – lies in that strong point of a strategic defense but with very creative new forms of offense. And I think actually President Trump isn't wrong when he says things like dropping oil to \$40 a barrel will probably be one of the death – the nails in the coffin of the Putin regime in Russia. The Russian economy is finally in a death spiral. We were too late with a lot of the sanctions, and so when I think about a comprehensive campaign, it's not just in a domain and military campaign; it's how it's matched with diplomacy and economic instruments.

So in this case I think what we have to really focus on is keeping them in the fight, but then even being willing to support some of the

amazing long-range drone strikes that over the month of January have knocked out large volumes of Russia's oil refinery capacity and been targeting the Russian economy, and then support that with measures like trying to forcibly drive down the price of oil, doing everything to engage in economic offense to complement that strategic military defense, to really place the Kremlin in the horns of a dilemma: You can bleed in Ukraine or you can go broke in Moscow, but the war ends on terms favorable to the Ukrainians.

Col. Pence: General Hodges?

Lt. Gen. Hodges: Well, well said. We have not used our economic tools at all here until just as of late. And – but this all comes from political will, and we have failed to clearly identify our strategic Dr. Jensen that then communicate that to our own population about why it's in the interest of the United States – our interest – that Ukraine defeats Russia. This is not charity for Ukraine; this is our interest. And it also of course deters China.

So if we get the strategic Dr. Jensen right, then all the policies will – we'll get the right policies about weapons, ammunition, restrictions or no restrictions. And then I think our other allies would follow our lead. But, you know, we hamstrung ourselves out of a needless fear of Russia using a nuclear weapon, and also somehow we had too many people that just couldn't see the goodness of a collapse of the Kremlin. Hopefully we can change this.

Col. Pence: Well, thank you so much, General Hodges, for joining us from Frankfurt on a late Friday afternoon.

And Dr. Jensen, thank you for joining us and sharing with us your insights.

This has been the land domain panel of Conflict in Focus: Lessons from Russia-Ukraine Series. We'll be exploring lessons learned from other domains in future weeks, and you can find them on the CSIS website.

Thank you for joining us today.

(END.)