

Engineering Experts Investigate Damages in Ukraine...

While Airstrikes Rain Across the City of Kyiv

By Dr. Kit Miyamoto

On October 10, 2022, Russia escalated its war against Ukraine with the largest wave of airstrikes against civilian infrastructure since the invasion began last February. Targets included energy utilities, apartment blocks, and houses. Dr. Kit Miyamoto led a team of global engineering experts working with the U.N. in Kyiv, Ukraine's capital, to assess infrastructure damages caused by the war.

The team witnessed that Ukrainians responded to these attacks with calm and resilience. Dr. Miyamoto wrote that day that "All destroyed Russian tanks were removed and put into a museum display, and bombed highways and bridges were repaired. Restaurants, businesses, and schools were open despite the daily early morning air raid siren. Russian missiles still penetrate through a couple of high-rise apartments. But people were calm, ready to restart their lives and reconstruct the country."

Dr. Miyamoto kept a journal recounting his experience during the attack.

8:22 AM

I just heard a large air blast as I was making my morning coffee. It was a sonic-like blast followed by a line of collapsing buildings, the sound of which I have heard often in the past during earthquakes. We have all been extremely nervous since the Crimea Bridge blast a couple of days ago. I am in the newly built Radisson hotel in old town Kyiv, intentionally avoiding public buildings or large apartments that Russian forces can target.

I am not sure where the blasts are coming from; it could be a gas explosion somewhere. I hear fire truck sirens off in the distance and look out the window to see if I can spot anything. But, instead, my eyes are met with a woman next door, a mobile phone in her hand, and a little girl nervously peering through a curtain.

9:15 AM

Our Ukraine country manager, Pavlo, has messaged me that a Russian missile hit about 1 km from our hotel. He sends me videos of burning cars. He got stuck in town last night and slept at his friend's apartment nearby.

I heard a second blast. My small room is shaking. This is not a drill; this is a real air raid. Sabine is awake, and we quickly run to the basement shelter.

10:38 AM

We are now stuck in the basement shelter with a group of hotel guests. I'd estimate nearly one hundred of them. They all look like humanitarian assistance types. Some are wearing their NGO logo shirts, and some wear press credentials. Many are working on laptops. The hotel provided some sleeping pads. Unfortunately, Sabine and I did not get one, just an old desk and two chairs. No complaints from me. We are fortunate to have this space.



Kyiv apartment building devastated by deadly shell.

12:32 AM

Pavlo calls and tells me he is hiding in a basement café with food next door to us. That sounds better, and we go to his location and order a proper breakfast. The people in the Café are calm, and the next table over orders a bottle of local orange wine while waiting for the air raid sirens to be done.

The news is saying that Russia retaliated for what it claimed was a "Ukrainian attack on a critical bridge." Russia's attacks shattered buildings and killed at least eleven people.

4:31 PM

Pavlo, Sabine, and I are back in the office near the city center. We begin writing flow charts of the reconstruction schedule and deployment. This week, we need to develop reconstruction programs for the damaged houses in all affected areas.

We will be working with U.N. agencies and assembling a local team to start repairing damaged housing units and high-rise buildings. People need proper shelter now. Many live in **shell-damaged and burned** apartments since they have no other means. Tank shell and missile damages are technically localized, therefore, simpler to repair than damages caused by earthquakes. ■

"We can really assist people here back to normality. As an Irpin city official said, 'Destroyed but Not Conquered.' Incredible people." *Dr. Kit Miyamoto*



Dr. Kit Miyamoto is a world-leading expert in disaster resiliency, response, and reconstruction. He provides expert engineering and policy consultation to the World Bank, USAID, U.N. agencies, governments, and the private sector. He is a California Seismic Safety Commissioner and Global CEO of Miyamoto International.