

The next five years will generate a boom of Ukrainian tech talent

It's an unfortunate truth that war breeds innovation. WWII was the source of many technologies and scientific advances that form part of our everyday lives - from microwave ovens, computers and quantum physics to blood transfusions, skin grafts and penicillin - it would be difficult to imagine a world without such technology.

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Fast forward over 80 years, where new conflicts are waging that necessitate further advancements. The rate of innovation we're seeing now - not only from Ukraine but globally in nations determined to support its defence and the rebuild that must follow - will be cutting-edge technology.

Drones are the future

In recent years flying drones has advanced from a hobby to a profession, but today in Ukraine, they are a vital part of warfare. Drone companies worldwide are innovating faster than ever before as a way to join the war effort and we're seeing a number of these emerging from Ukraine.

There's one particular Ukrainian startup which has been creating digital twins of drones in order to reprogram them for enhanced, dependable use across the battlefield. From extending the range to over 20 kilometres to optimising the performance and control of drones that are moving rapidly on a mission. The company has deployed over 300 drones across the front line, many of which have been multi-use tools for precision strikes. Then there's the UK's Evolve Dynamics which already has a number of all-

weather UAVs deployed in Ukraine, and given the harsh winter weather, drones that can fly in the wind, rain, sleet or snow are vital. Slightly further afield, Australia's SYPAQ Systems has turned the definition of 'drone' on its head and created cheaper and easier to transport cardboard drones. Earlier this year, SYPAQ Systems sent flat-packed drones to Ukraine; a cost-effective form of defence for a nation at war.

The fact that Ukraine is under severe attacks by low-flying UAVs and cruise missiles, has required startups to develop technology to try and anticipate them. The nation's Zvook has created 'listening' devices that are attached to infrastructure like power pylons, that can detect the acoustic signature of a rocket launch or a jet engine. Zvook's automated system has a long listening range and will inform air defence forces about the location and time of a missile launch which minimises the frequency in which combatants are caught 'off guard', helping soldiers and civilians alike.

These are only a few of the companies that are working fast in the drone industry to improve the technology and make it better equipped for the perils of war. Those that have the terrible first-hand experience of war, will know what works best and what's needed - whether that's a battery-operated drone that doesn't need to be charged as frequently, one that functions autonomously, or those that can fly undetected, this is only the beginning. From delivering supplies to the frontlines to conducting counter-attacks to surveillance, we will see more innovation in this field as defence forces try to think three steps ahead and integrate new capabilities into drones and UAVs.

Funding Ukrainian entrepreneurship

War necessitates innovation and this does not come for free. The brilliant ideas coming out of Ukraine need capital to not just get off the ground, but so that they can thrive and scale. Many startups with groundbreaking

ideas rely on research and development (R&D), which is the core pillar of any tech company and data is its most valuable asset.

Funding can also refer to professional support, as the time and energy spent invested in a startup can help the founders and the wider team develop their business acumen. Such support includes networking opportunities, attending the right events, media training and advice on pitch decks. This knowledge is invaluable and this ecosystem awareness, coupled with capital, is a sure-fire way to ensure that the skills and innovations of these wartime entrepreneurs don't go to waste. There's an opportunity for them to commercialise what they've built and build scalable businesses. The ability to fund Ukrainian entrepreneurs enables people to work harder to create technology that can turn the tide of the war and help the country rebuild once it's over.

Rebuilding the economy

Since the start of the war in Ukraine in February 2022, countless lives have been lost and the economic cost has been astronomical. According to *an assessment* made by the Government of Ukraine, the World Bank Group, the European Commission, and the United Nations, it is estimated that recovering and reconstructing Ukraine will cost €383B - and it's a shame to say that this figure will continue to rise.

Creativity is spurred by investment and a well-funded startup is an attractive one that is able to hire skilled talent that can bring in new ideas and solve old problems; everything is interconnected. Thriving industries beget a thriving economy, which will be necessary for Ukraine's post-war recovery.

This recovery will also be aided by Ukrainian agricultural innovation. Pre-war, agriculture accounted for *41% of Ukraine's total exports* and provided employment for *14% of the population*. Much of Ukraine's fertile

land has been rendered unusable by landmines, never mind the use of chemical weapons.

Talent never stops

The effects of the ongoing war will be everlasting. What we've seen yesterday and today and what we'll see tomorrow and the day after will all have an impact on the outcome of the war. The technology that was necessary a year ago might not be needed next month. Innovation is constantly evolving and startups - from the founders to the product team - will be working tirelessly to create tech that is useful and ultimately saves lives. Due to this, Ukraine will be home to many emerging startups and a wealth of talented people who have an acute understanding of technological applications. This boom of talent won't disappear when the war ends. Rather, these people will pivot towards peacetime technology - with a particular focus on defence-tech and agri-tech - so that the Ukrainian economy can not only restore itself but build to new heights.

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