**Partially due to our strong support for Ukraine, we can’t produce all the drones we need to be ready, if we have a major conflict like with China.**

**This is a great opportunity for certain military contractors, and the Pentagon has great strategies to effective in future combat, but we need thousands of air, land, and sea-based drones to overwhelm and defeat a major enemy. Skilled laborers are in demand.**

The Air Force also plans to use drones (called collaborative combat aircraft, [CCAs], to accompany our B-21 bombers and F-35 fighters which should complicate enemy radars. CCAs are comparatively cheap and also compensates for the cost of training pilots. (This will partially cover the 2000 pilot positions currently unfilled.) Drone operators, which are also in deficit, are less costly to train than combat pilots. People skilled in some video war games are good candidates to train as drone operators.

The booming commercial aircraft market place is a fierce competitor for precious skilled labor, raw materials and parts such as advanced electronics and fasteners. Of course this is a tremendous opportunity for defense contractors, because robots have not been built to replace all the jobs unfilled by skilled humans. Needed robots will be built because we need them, but it takes time to design, test and build super robots.

In San Diego, Ca, Brian Tseng, Founder and President of Shield AI has built a factory to produce small drones that are now been used by the U.S. military. Shield AI is one of the first companies in the business of making autonomous flying vehicles that rely on artificial intelligence to navigate and complete missions, and one of the best-funded.

We need more Brian Tsengs, and companies like Shield AI. Tell your grandchildren about this great opportunity that will be around a long time.

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**Source:**

**Pentagon Faces Drone Production Crunch**

Acquiring thousands of un-crewed aircraft proves difficult amid booming demand

**BY DOUG CAMERON, *The Wall Street Journal* | Page A002, 26 September 2023**

The Pentagon wants to acquire thousands of drones over the next two years that can fly to their targets, confuse radar, overwhelm enemy defenses, fire missiles and gather intelligence. But making the un-crewed aircraft quickly and cheaply is another matter.

Mass production of large and small drones is crucial to the Pentagon’s plan to build big stocks of weapons and ammunition to deter China, which the Defense Department describes as the U.S.’s prime strategic competitor.

U.S. military leaders have lined up to warn of China’s ambitions to absorb Taiwan, perhaps in the next few years. **The scale of China’s own military buildup, including thousands of missiles, jets, ships and drones, can only be challenged by the U.S. making more, and soon, say Pentagon leaders.**

The Pentagon has proposed two marquee drone concepts.

The **Replicator program championed by Deputy Defense Secretary Kathleen Hicks would produce a huge fleet of air-, land- and sea-based drones that could be deployed by the thousands**. These would swarm to ensure some evade defenses to reach their target or relay information, and be cheap enough to use just once.

The Air Force’s “collaborative combat aircraft” program would fly much bigger autonomous drones alongside the new B-21 bomber and the advanced F-35 jet fighter, working as a wingman and adding dots on an enemy’s radar screen.

Un-crewed aircraft are much cheaper than the U.S.’s premium jet fighters, and pilots take years to train.

“This is about affordable mass,” said Gen. Dale White, head of the fighters and advanced aircraft programs at Wright-Patterson Air Force Base in Ohio.

But the Pentagon’s goal must contend with booming demand in the commercial aerospace market that has left a shortage of skilled labor, raw materials and parts such as advanced electronics and fasteners. The Pentagon wants to buy thousands of cheap drones in as little as 18 months, and as many as 2,000 larger uncrewed jets. By contrast, one of its primary drone suppliers, Shield AI, produced 38 of the aircraft last year.

“The intended volumes and variants of Replicator aircraft will require production capacity and flexibility not typically found in the defense industrial base,” Oliver Wyman, a consulting firm, said in a recent report.

Existing defense programs are already being hit by supply- chain snarls.

To build weapons faster, cheaper and in greater quantities than ever before, the Pentagon is looking beyond the major defense contractors to smaller firms, often backed by venture capital.

Andrew Hunter, the Air Force’s chief weapons buyer, acknowledges the challenge of securing hundreds of the large jet drones in a short period, but said they are being designed for high production, with simpler systems and digital design tools.

“The vendor base is pretty robust today,” Hunter said. Contenders include the Valkyrie from **Kratos ,** which got its start making drones for use as shooting targets. Boeing has its Ghost Bat, developed in partnership with Australia.

Just outside Dallas, Shield AI has built a factory to produce small drones that have already been used by the U.S. military. The San Diego-based company was one of the early entrants to the business of making autonomous flying vehicles that rely on artificial intelligence to navigate and complete missions, and one of the best-funded.

Brandon Tseng, co-founder and president, said the company aims to boost output to 100 drones this year, ultimately seeking annual production of 1,000 over the next several years.



Mass production of drones is crucial to the Pentagon’s plan to deter China. Above, an Air Force MQ-9 Reaper drone.