Stanford eCorner

Flying Under the Radar

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3DR Co-Founder and CEO Chris Anderson discusses how the drone-maker movement outpaced the military-industrial complex's efforts by going the opposite way on all strategic fronts: aiming for low production cost, embracing unreliability, minimizing regulatory exposure, and targeting large numbers of consumers. This allowed 3DR and the do-it-yourself drone community to speed up innovation, Anderson says.

Transcript

- I said, when you look at how we did this, we basically disrupted an industry by doing everything they did, we did the opposite.. Right? This is pretty much, it's not Elon Musk exactly, but it's pretty close.. So, rather than high-price, we're like, how about zero? Or as close to zero as we can get.. Rather than the aerospace industry, which has an impeccable record of safety, it has never been safer to fly on a jet-liner today, we're like, how about if we crash all the time? In the beginning.. Because were learning.. But don't worry, no one's on board, so nobody gets hurt.. And so the aerospace industry is like, you know the notion of nines? Five 9's, six 9's of reliability.. We've spent three years going for one 9.. Because, initially, it would crash every time you flew it.. By the time we're at about 2010 or so, it crashed about once every ten times, which is pretty good..

That's one 9.. Then it crashed about once every hundred times, and that was pretty much where we were ready to go to consumer side.. 'Cause, remember, your phone probably crashes 1 out of 100 times uses.. So, now we're shooting for about three 9's.. It crashes about one out of a thousand times.. But it's no big deal.. Nobody gets hurt.. They're cheap.. And that's the thing, if you take 9's out of the equation, then the pace of innovation really accelerates.. And if you don't have humans on board, then the risk of innovation, the cost of crashing, is so low that you don't have to emulate the aerospace model..

The aerospace industry is highly regulated.. It's export control.. It's FAA.. It's FCC.. It's Department of Transportation, the works.. And, we're like, let's not do that.. Let's not replicate the aerospace model.. Let's find ways, find sandboxes, where we can innovate that have no regulations.. So we found under 400 feet, within visual line of sight, no flight over people, no flight at night.. Suddenly, it's deregulated..

You don't have to get these permissions.. We said, initially, if you sell to consumers, you have to get FCC approval.. If you sell to developers, you don't.. You have export control unless it's public domain, open source of public domain, or at least we argued, exempted from export control.. And everyone's like- These rules were written in the 70's.. It never occurred to them that cruise missile controllers were going to be created by nine year olds on dining room tables with Lego.. The notion of public domain cruise missile controllers, which is essentially what an auto-pilot is, it just wasn't a thing.. It never occurred to them that this could happen.. And yet it did.. So it found ways where the regulations were low..

The pace of innovation as a result was high.. The numbers of customers was super high...