



## Stanford eCorner

### Leveraging Today's Technology

William Marshall, *Planet Labs*

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Video URL: <http://ecorner.stanford.edu/videos/3541/Leveraging-Todays-Technology>

William Marshall, a NASA scientist turned entrepreneur, explains how important timing and context were in the launching of Planet Labs. Marshall, the startup's co-founder and CEO, says the maturity of technology today and the confidence among his peers to question convention allowed them to leap ahead of their counterparts in industry.



#### Transcript

The question we often thought of at the beginning was why hasn't anyone done this? And I think it's useful to reflect on that just because it helps you think of what might be good other ideas to pursue. So and we think that there were sort of three major reasons. One was the technology readiness. So I mean, we leveraged a lot of technology that people have been spending billions of dollars compressing sensor systems into these devices and we leverage a lot of that. We don't have phones in our satellites although we did when we were at NASA put some phones in space, that's another story. We leveraged a lot of the sensor systems though. The accelerometers, the rate gyros, the magnetometers, all of that stuff that's been stuffed in here, the little GPS sensors, the little and low power processing arm chips and so forth. So we leveraged a lot of that. And simply it wouldn't have been possible to do a lot of that technology that's stuffed into that little box 5 or 10 years ago. So that technology maturity was one part.

That also applies on the cloud compute aspect of this, all the processing of the imagery. 10 years ago we would have to stand up our huge own server system to deal with all of the imagery, but now we don't we can just sign up on Amazon Web services. The other thing was the stage in our career. So for our particular problem of the systems engineering complexity that I just mentioned, it was very useful that we had spent a number of years at NASA learning how to build satellites and learning how to get launches and the regulatory stuff and operations and -- but we weren't too far along such that we had bought into all of it and so we questioned a lot of it when we left. In fact, we tore up most of the -- what's called the NASA gold rules for satellite manufacturing. We don't use clean rooms; we don't use a lot of the processes that NASA use -- uses, because we think - didn't think it was irrelevant. But we did know enough about them to be able to apply the ones that were needed and so at least for our particular project, our stage in our careers was kind of about right which is about 30 years old fyi. And then there was a need for this product I think. There was a genuine need for what we were delivering at this time I think everyone has an acute awareness of our need to become better at stewarding this planet in a sustainable way and so there was a strong need when we went out to the market place.