# How CloudFactory Creates Digital Assembly Lines

*Crowdsourcing.org first had the opportunity to speak with CloudFactory co-founder Tom Puskarich a few months ago at the cloud labor platform's launch where Puskarich was in attendance with fellow co-founder Mark Sears. Now that CloudFactory's Nepal-based digital assembly line model has been up and running for a few months — and with a new website — we followed up with Puskarich to see how it's going and how a factory in the cloud can help any business, even a pool cleaner in California.*

**Crowdsourcing.org: First off, introduce us to CloudFactory. What's the site all about?**

**Puskarich:** CloudFactory is all about giving more access to cloud labor with a generalized set of tools and best practices. This means that businesses of all sizes can access cloud labor much faster and without any up-front costs. We think this open approach is pretty disruptive to an industry that often requires either a lot of money or time before getting started.

**What type of tasks can CloudFactory's cloud workers tackle, and how do you guarantee quality results?**

CloudFactory really is a factory in the cloud where we have brought manufacturing and assembly lines into the digital age. Any digital task that can be consistently reproduced with a precise and correct answer is what we specialize in. Our factory is about mass production so we aren't set up for creative and higher level tasks like designing logos or writing long articles. Think data entry, content moderation, image tagging, transcription, form digitization and more.

By focusing on these types of tasks we are able to build in a lot of best practices for getting quality results. Including tasks we already know the answers to (Gold Standard) and using our Tournament station approach to asking multiple users and comparing answers (Plurality/Majority Vote) are some of the ways we make it easy for businesses to do appropriate quality checks. We are also using machine learning and matching algorithms to properly manage a large and distributed workforce. But we also know that all the fancy algorithms and statistics in the world cannot replace what this is really about - humans performing work that machines can't.

Quality results come by finding talented and motivated workers, training and testing them, matching them with the work they are good at and like, giving them clear instructions and doing intelligent quality checks. So when it really comes down to getting quality results we believe you absolutely need great workers. We are building our own workforce with a completely different approach to what has been done to this point. Our model is built on social capital and is similar to the Grameen model found in microfinance. A Grameen style model can offer vast scalability while still incorporating accountability, training, testing and supervision that we've found to be missing in other cloud labor models.

In addition to all of this we are building a solutions team that is ready to help with designing your virtual assembly line, task forms and analyzing your results to find a solution for your small or medium sized business. Take advantage of our crowdsourcing experience to help set up your project well and since we are based offshore we can offer these services at extremely low rates. We are working with a number of SMBs everyday now over Basecamp, Skype and email to do some pretty cool projects on top of CloudFactory.

**How are CloudFactory workers compensated for their efforts? Do task providers set the rates, or do you?**

CloudFactory workers are always paid per task. Currently, task providers set the rates for the tasks but we are also exploring other approaches right now with our early customers.

**What differentiates CloudFactory from other cloud labor platforms — like Amazon's Mechanical Turk, for example?**

CloudFactory is much more than a simple bulletin board system where tasks are posted one by one. We offer

multi-task workflows (assembly lines) to build complete solutions. We've got a big development team (currently 48 employees) where we're based in Kathmandu, Nepal to keep adding more features and better tools to make cloud labor easier and more accessible.

**It appears you've worked hard to produce a simple but flexible interface for CloudFactory tasks. Tell us a bit about how those tools work and the creative process behind their creation.**

Things don't have to be difficult. We like things to be easier so that's what we set out to do. Cloud labor could really follow in the same footsteps as when Henry Ford took a complex problem of building a car that could only be done by a team of highly skilled engineers all working on building one car at a time and then broke down all the tasks of building a car into much more granular steps that required less skill at each step and so more people could do the work. And by building cars that way he saw actually more production and higher quality from people that required less training since their work was so specialized. We want to give businesses easy tools that emulate that idea of breaking work down to get more results and higher quality alongside a simple pay-as-you-go model to revolutionize how computer based work is being done too.

**How can software robots and humans function together to generate the most efficient work on a particular task? Can you provide an example of a task that would benefit from the combined use of software and human labor?**

One example is a pool cleaning guy, Jim, who is looking for new sales leads and finds himself knocking on a lot of doors that don't need pool cleaning services. He knows a lot of his new clients are from homes with pools that have recently been sold. So Jim, being a savvy entrepreneur, decides to use CloudFactory to start working smarter instead of harder. He sets up a virtual assembly line quickly and easily that runs on its own every week and sends him an email of homes in his area that are great leads. He did this by creating an assembly line by first, using one of our library of robots, can scrape all the houses in his area that were just sold but what this doesn't tell him is whether they have a pool. Instead of Jim getting this big list, he has the next task in the virtual assembly line on CloudFactory go to a cloud worker. The cloud worker, for each house, sees a Google satellite view of the house and flags whether or not the house has a pool. Now a filtered list of hot leads comes to Jim every week for what will only cost him a few dollars or pennies per lead. So the robot makes it easy to build the software pieces of grabbing the newly sold houses and the human workers are needed to find out which have pools, with both easily working together using CloudFactory.

**At what stage is CloudFactory at presently, and where do you envision the site in a year?**

CloudFactory is live and ready to solve business needs today, just sign up for a login then see the example use cases, design your first assembly line, and contact our Solutions Team if you need any help. In a year, CloudFactory will have an even more extensive collection of robots, lots of public assembly lines to find out how others are utilizing CloudFactory, and a shorter amount of time for businesses of all sizes to start using cloud labor. We also will have a quickly growing workforce of our own in developing nations to ensure a large number of talented and motivated workers are standing by 24/7 to staff your assembly lines.

**What else should we know about CloudFactory that you haven't already told us?**

CloudFactory has a social mission to change how the world works. We want to connect the dots between the untapped human potential in developing countries and businesses around the world that need an on-demand workforce. We believe in a market-based approach to poverty alleviation and have already seen our first success story in the building of CloudFactory itself. From day one, CloudFactory's innovation and creation has come entirely from the developing country of Nepal where a group of smart young software engineers were given the opportunity to work on a world class project and ran with it.