

Ramona Schindelheim, WorkingNation editor-in-chief:

You're listening to Work in Progress. I'm Ramona Schindelheim, editor-in-chief of WorkingNation. Work in Progress explores the rapidly changing workplace through conversations with innovators, educators, and decision-makers, people with solutions to today's workforce challenges. The recession has left us in a very unsettled economic time, lots of job loss, and also the way we do our work has changed dramatically and will probably remain so for the years to come. Today I want to talk to Matt Sigelman, CEO of Burning Glass, about a new report that they just put out on what kind of jobs we can expect in the recovery. Matt, thank you very much for joining us.

Matt Sigelman, Burning Glass Technologies CEO:

It's always great to be together, Ramona.

Ramona Schindelheim, WorkingNation editor-in-chief:

Matt, I wanted to talk to you a little bit about this new report, After the Storm. You talk about jobs that are ahead in the market. You're projecting that there are going to be 15 and a half to 18 million new jobs created over the next five years. Why don't you tell us a little bit about where you see those jobs in a broad sense? And then we can break it down a little bit later.

Matt Sigelman, Burning Glass Technologies CEO:

Our report tracks five secular trends that we think are going to drive the post-COVID economy. We talk about them as each of them being an economy in and of itself. We talk about the readiness economy, the automated economy, the remote economy, the logistics economy, and of course, the green economy. We can talk about what I think will drive all of them, how the pandemic is leading to a set of forces that are reshaping the job market.

Matt Sigelman, Burning Glass Technologies CEO:

But I think the core idea behind the report is that when you look ahead to each of these secular metatrends that we can all see right now, starting to pick up, that we can see being at play, when you project them out, each of those trends is going to be driven by a set of jobs and skills. Each of them is going to create a wide set of jobs, up to 18 million jobs from those five economies alone. We see that those five economies are going to grow about twice as fast as the market overall and wind up comprising one in six jobs across the whole job market wind up being in one of those five economies.

Ramona Schindelheim, WorkingNation editor-in-chief:

Do any of those jobs exist now, and are we skilled for them?

Matt Sigelman, Burning Glass Technologies CEO:

I'm going to say yes and no to the two questions you just asked. Yes to the first, no to the second. A lot of these jobs do exist today. These economies are accelerating forces that are already at work in the job market today. But what we're really going to see is a doubling down on some of the things which have already been at work. Give you an example. I talked a minute ago about the readiness economy. The readiness economy represents an awareness that's been borne about by the pandemic about the vulnerability that we face across a range of dimensions. There's a lot of people who originally were saying that the pandemic was what economists like to call a black swan event, the kind of event that you can't predict. Thomas Friedman from The New York Times said that it's actually a black elephant event.

It's the elephant in the room that nobody was paying attention to. Well, guess what? We're now all paying attention.

Matt Sigelman, Burning Glass Technologies CEO:

And now that we're paying attention, you can imagine that both industry and government is going to invest very seriously in readiness, not just readiness for the next pandemic, but readiness for cyber attack, readiness for physical infrastructure failure, readiness for environmental catastrophe. There's a set of jobs and a set of skills that are involved in that readiness. Sets of cybersecurity jobs, sets of jobs in physical infrastructure, construction jobs. You're going to see sets of jobs in biochemistry, biostatistics, and in the life sciences, sets of jobs in healthcare. Those jobs exist today.

Matt Sigelman, Burning Glass Technologies CEO:

That's where we get to your second question. Are we ready? Do we have enough talent for those? And the answer is clearly no. When we think about creating 18 million jobs in five years, that's a huge challenge. For us to be able to rise to the level of growth that those economies demand, we're going to need to really rethink how we bring talent to the market. And that's a challenge not only for education, not only for government, but it's a significant challenge for companies who, of course, drive our economy today.

Ramona Schindelheim, WorkingNation editor-in-chief:

The last part of what you just said, that we are not quite ready, we're not ready, it's going to have to involve change, that goes for the readiness economy, the logistics economy, the green economy, the remote economy, and the automated economy. So this is a broad idea that despite some of us, and I think you're among us, having talked about this need to prepare, we are not prepared. We're still woefully behind.

Matt Sigelman, Burning Glass Technologies CEO:

I think we're not prepared, but I think in some ways, what we have to realize is that the modern economy moves very fast. When I say moves fast, I don't mean just that it grows, it's growing fast. We hope it'll grow fast. Right now, it's not growing so fast. But what we can see is a tremendous and really unprecedented level of dynamism in the job market today. We're seeing the creation of new jobs, but even more than that, we're seeing a lot of change in the skills within existing jobs. And of course, trends like the ones that we're tracking here in our report are accelerating demand in places where there are existing jobs and where there may be some existing skills. I see this less as a failure than more as a challenge.

Matt Sigelman, Burning Glass Technologies CEO:

That's to say, look, I'm in a market that is very dynamic, that changes quickly. It may not always be possible to have a crystal ball. It wouldn't have been necessarily possible without amazing prophetic powers to see the pandemic coming. Do I look at where we are today as a failure? Not necessarily. But the question is, what will we do about it now? It doesn't take much of a journey of the imagination to see ... It doesn't take extrasensory powers to see these kinds of forces taking shape. We're having this conversation not in person, as I wish we were, but on a remote platform. We all know how much sensitivity the pandemic has exposed to our supply chains and we call the logistics economy. And you can see how that's going to lead to a reshoring of some advanced manufacturing jobs. It doesn't take a

lot of deep analysis to see those things forming. It doesn't take much of a journey of the imagination to then project them forward to the kind of level of growth they're going to drive.

Matt Sigelman, Burning Glass Technologies CEO:

The question is, okay, if we can see it, do we have a system that is responsive enough, flexible enough to be able to respond to that challenge. To date, that hasn't been a strength of ours. We know that from even before the pandemic, the Harvard economist David Deming, looking at Burning Glass data, found that there are some occupations that over the last decade have had as much as almost half of their skills change, and that's just in the space of 10 years. Think about the curricula that prepared students for those jobs. Is half of that curriculum different today from what it was a decade ago? Of course not. For us to rise to this challenge and make this not a challenge, but an opportunity, we have to think about what will make our training systems, our education systems, our talent development systems for employers more responsive.

Matt Sigelman, Burning Glass Technologies CEO:

And that means, first of all, stepping back from thinking about degrees as the sole mechanism for bringing talent to market, and instead, create much more responsive infrastructures, shorter term programs that help people build skills. It also means rethinking how we help support people move from job to job. Right now, there's a lot of people who have been displaced, millions of people who have been displaced because of this pandemic. What we know from past recessions is that people who are displaced tend, unfortunately, to stay on the sidelines. But if we think about retraining not as moving people job to job, but as moving them skill to skill, if we build on top of the skills they have, we may be able to build a pipeline of talent into some of these jobs much more easily than we may be imagining.

Ramona Schindelheim, WorkingNation editor-in-chief:

Let's talk about some specifics. In the report, the logistics demand seems to be the highest one that you see in the next five years. Over 1.6 million jobs listed as potential. Tell me what kind of jobs these are. What kind of skills will be required?

Matt Sigelman, Burning Glass Technologies CEO:

Logistics economy, you're right, is the one we think will be the biggest. Right now, already accounts for about 6 million jobs and based on how we're defining logistics economy. And it's also not only the biggest of these, but it's also the most accessible. Some of these, as you can imagine, the remote economy, the automated economy really depend on advanced technology platforms, so maybe less accessible for the two-thirds of Americans who don't have college degrees.

Matt Sigelman, Burning Glass Technologies CEO:

But there's a number of jobs in logistics which are open on all sides. We're talking here about sets of skills in the internet of things and supply chains. We're talking about robotics skills and process automation skills. We're talking about pharmaceutical manufacturing, industrial big data analytics, the manufacturing of PPE, which are key sets of skills, which define the logistics economy. If you were to look at that as a set of jobs, I think you would see sets of jobs in pharmaceuticals and in supply chain, and many of these really are what we call middle skill job ... I think there are better terms to use than that, but I know it's a recognizable term. These are jobs which are open to those without a college degree.

Ramona Schindelheim, WorkingNation editor-in-chief:

Are a lot of these jobs jobs that will probably need some kind of certification, or could they be jobs that are learned on the job?

Matt Sigelman, Burning Glass Technologies CEO:

Both. Certainly there's a number of jobs in that economy and all of these economies which currently demand certification. The broader question is, can we actually think about certification not as a barrier, not as an encumbrance to bring more talent into those opportunities, but instead, can we actually think about certification as an express ticket? Right now, the employers lack a really good mechanism for being able to validate whether people have the right sets of skills. And we know we need a lot of new talent. Waiting for students to graduate from college or from community college programs with the right degrees is going to take a long time. If instead we can develop a set of certifications that are specific to the transitions that will prepare people to rise to take these jobs, we're going to be able to reduce the barriers to having much more supply into the market.

Ramona Schindelheim, WorkingNation editor-in-chief:

A lot of work has shifted to remote, including mine and yours. Your report's saying that you see a lot of this likely to become permanent. What kind of jobs does that create a bigger demand for?

Matt Sigelman, Burning Glass Technologies CEO:

The remote economy is one which is going to require both the sets of skills that it takes to support remote platforms like this, but it also, frankly, it encompasses the sets of jobs which are enabled by platforms like this. In terms of sectors of the remote economy, in terms of that first category you have of jobs that support these kinds of platforms, a lot of jobs in AR, VR, alternate reality, virtual reality platforms, cloud platforms where data is no longer actually sitting in physical servers but it's sitting in the cloud and therefore more accessible, is a huge range of jobs in the cloud. We think there's going to be a range of jobs in network systems and in ed tech. One of the most promising applications of technology platforms like this, and we've seen a huge growth in the past year, is in platforms that facilitate learning remotely.

Matt Sigelman, Burning Glass Technologies CEO:

Some of the MOOCs, the massive online open course platforms like Coursera and edX and a number of others, have seen explosive growth in people realizing that you don't necessarily need to be in a classroom. I think you're going to see an explosion in ed tech driven by the remote economy. E-commerce is another one that, of course, is one of those kinds of parts of the economy that are enabled by the remote economy. We didn't cover this in our report, but I think you could extrapolate even further when thinking about the remote economy, to think about a range of jobs, of service sector jobs supporting greater population in smaller, more rural parts of the country.

Matt Sigelman, Burning Glass Technologies CEO:

Coming into the pandemic, the last decade has not been kind to rural America. And there's been a lot of poverty, a lot of suffering in rural America as more and more people have had to abandon small towns where they grew up, where they might've settled, and instead for economic opportunities, to pursue economic opportunity in big cities. The remote economy may reverse a lot of that, may make staying in small towns more possible, and that may lead to greater economic vibrancy in those small towns. I think

in addition to the sets of jobs that are directly enabled by remote platforms, in addition to the sets of jobs that are involved in creating those cloud platforms, those ed tech platforms and the like, I think you can see a set of jobs that are multiplier effect jobs, the sets of jobs that happen because you've got people staying in smaller towns and spending money in smaller towns.

Ramona Schindelheim, WorkingNation editor-in-chief:

I want to talk about the other two economies before we go. The automated economy, that's something we've talked a lot about in the last few months, that the pandemic has accelerated automation, artificial intelligence, and that's going to just continue. I don't see you putting that genie back in the bottle. But that means a lot of people in jobs that are task-driven, once those tasks are being replaced by automation, those jobs go away. But I always want to be positive about it and say this has happened before. And what happens is new kinds of jobs are created. What are you seeing in that area?

Matt Sigelman, Burning Glass Technologies CEO:

It's very understandable why the automated economy is taking root so fast through the pandemic. When employers are forced to let people go, they tend to be fairly reticent about bringing them back. It's a time of economic uncertainty and the like, and so in a lot of cases, we're already seeing an acceleration of automation-driven replacement of jobs, where workers were already at risk, already in the balance. As you said it, we've seen it coming. We're not going to put the genie back in the bottle. The automated economy encompasses a range of sectors. First of all, we see actually a lot of application of AI and robotics in healthcare, a lot of focus on finance investment, and also, of course, a lot of focus on machine learning and natural language processing, things like computer vision and autonomous driving, of course.

Matt Sigelman, Burning Glass Technologies CEO:

And then just broadly, robotics and process automation. Some of those robotics we think ultimately could drive over a million job, 1.3 million jobs. Machine learning jobs. We think there'll be about 2.7 million jobs created in that sector. These are very well-paying jobs and very fast-growing jobs. Here's the thing. The question you asked a few minutes ago was a really smart one, which is, hey, look, we've had a lot of displacement. We clearly are going to see a lot of job creation, right? Up to 18 million jobs across these five sectors over the next five years, which may be more than enough to provide opportunity for everyone who's displaced.

Matt Sigelman, Burning Glass Technologies CEO:

Here's the challenge, though. We know that the kinds of jobs where people are displaced and the kinds of jobs that are being created, there's not necessarily a direct path from one to the other. Take, for example, the green economy. Decarbonisation. As we move away from carbon-based economies, the oil and petrochemicals manufacturing business, coal and others to green technologies, there may, at a numbers basis, almost be a one-to-one transition. Not sure about that. There's a question of skills, and there's question of geography. The geography of carbon-based jobs and the geography of green-based jobs isn't necessarily the same. We're not necessarily building solar farms in Paducah, Kentucky, or in West Virginia, where a lot of people have been displaced from the coal sector.

Matt Sigelman, Burning Glass Technologies CEO:

And there's also a question of skills. And so that's why it becomes so important that we create an infrastructure that is designed to help people make job-to-job transitions. And to do that, what we need

to do is we need to start by understanding the skills around the economy. One of the things that Burning Glass has done in our work has been essentially to create a genetic map of the job market to understand what are the skills underlying each job that's out there. And one of the things that's empowering about that is it allows us to understand how jobs relate to one another.

Matt Sigelman, Burning Glass Technologies CEO:

And sometimes the relationships between jobs are kind of surprising. For example, a lot of people have been displaced from hospitality jobs and in other low-wage service sector jobs. We've been surprised to see that there are often direct pathways to jobs in banking, often direct pathways from those kinds of jobs even into tech. But the thing we have to remember is they aren't one quick step. We all want the silver bullet. Those transitions often take a couple of steps, and we have to be able to build on the skills that people already have, so you're just solving for the gap between the skills someone already has and the skills they're going to need in their next job.

Matt Sigelman, Burning Glass Technologies CEO:

Take the example of somebody working in the hospitality sector who moves into a job in what they call personal banking. To you or me, personal banking sounds like somebody with an MBA, maybe a Swiss accent. It actually turns out it's a retail branch banking job. It's the person who's pulling you out of the queue to ask you whether you want to refinance your car loan or whatever it is. If you look at the skills of that job, there are a set of customer-facing skills very similar to what you've acquired working in a hotel or a restaurant or in a retail store. But you need to ... In fact, the gap really revolves around understanding how financial products work.

Matt Sigelman, Burning Glass Technologies CEO:

Can we train somebody in a few months to acquire that set of skills? We can. But people in those jobs need a GPS. They need a Waze app for their career so they can know where those opportunities are. And we need to restructure our community college programs to not just be about giving people degrees that they can then go on to a bigger state university and get a four-year degree, which is kind of what most of what community college enrollment is focused toward today. And instead, how do we use community colleges as a really fabulous infrastructure for helping people just pick up those specific sets of skills that are going to unlock mobility for them, that are going to unlock opportunity for them?

Ramona Schindelheim, WorkingNation editor-in-chief:

Finally, one thing I noticed about the report, on all of these economies, these are jobs that are paying 52,000 a year and above. Depending on what community you're in, that's a good wage, so we could call these good-paying jobs. What are your thoughts on that? Am I putting \$52,000 at a high premium? Is that really a good-paying job?

Matt Sigelman, Burning Glass Technologies CEO:

First of all, it is well above the average. Actually, 59,000 is the average across these five economies, and that's a third higher than the national median. But I think it's also important to realize averages always underlie some significant variants. The average temperature on earth I think is 72 degrees, but it ain't 72 degrees in Philadelphia today.

Matt Sigelman, Burning Glass Technologies CEO:

I think what you're seeing here, and this is what's exciting about it, is first of all a range of jobs that pay well above that, jobs that pay well over a hundred thousand dollars a year across this, jobs in the eighties and the nineties and also jobs that are a bit lower, but more accessible to the kinds of people who might be very much at risk, the kinds of people whose jobs may have already been lost due to the pandemic or may become lost due to automation. It excites me that, on the one hand, these are overall good-paying jobs and on the other hand that there are opportunities across the spectrum both for people who don't have access to opportunity, who can use these opportunities as a ladder up as well as for people who are looking for much more lucrative work.

Ramona Schindelheim, WorkingNation editor-in-chief:

Matt, thank you. I always enjoy talking to you. Truly do. I learn something new each time I talk to you.

Matt Sigelman, Burning Glass Technologies CEO:

I always enjoy these conversations, Ramona, and you ask wonderful questions. This is such an important set of topics. I really appreciate the tremendous work that you and WorkingNation are doing to shine a spotlight, both on the challenge and the opportunity. We all know we live in a time which has brought tremendous suffering, where we know there are significant equity issues that have been exacerbated by the pandemic. And it's all the more reason why we need to focus on where the opportunities are. We need to maintain our optimism. See that there's going to be a lot of growth. That growth could be well-paying. And what we need to set ourselves to, and again, I'm so grateful to your work at WorkingNation, is asking ourselves the tough questions of how we're going to unlock that opportunity, how we're going to change challenge into opportunity, so thank you for that.

Ramona Schindelheim, WorkingNation editor-in-chief:

Thank you, Matt. I've been speaking with Matt Sigelman, CEO of Burning Glass. I'm Ramona Schindelheim, editor-in-chief of WorkingNation. Thank you for listening.