

12 Technology Categories That Will Transform Careers and Create New Ones

As technology continues to impact our lives, workers at every level in today's ever-changing labor market need to be prepared with skills to adapt and succeed in the workplace.

The problem is, we live in an uncertain world, and because of the high levels of uncertainty we all face, people of all ages and career levels are finding it difficult to know what new skills to learn, what courses to take, and what degrees to get that will provide them with the most opportunity going forward. Uncertainty keeps us stuck in the present.

Certainty, on the other hand, gives us the confidence to make a bold decision, to move forward with confidence, and to invest time and money to learn new things. Over the past thirty years, I have developed a proven methodology to anticipate disruption and change before it happens, allowing you to find the confidence that certainty provides. This new science of certainty involves a scientific method of separating Hard Trends — trends that will happen — from Soft Trends — trends that might happen. This method is currently being used by many Fortune 500 companies, including IBM, Deloitte, and Pratt & Whitney to name a few, as well as the Pentagon to provide an accurate roadmap of the opportunities that are ahead.

That's why I wrote my latest bestseller, *The Anticipatory Organization*, and why I'm now helping you to connect the dots on how the 12 Hard Trends driven by technology I outline below will transform every career, and create new ones. By providing an accurate roadmap for anyone who wishes to increase their personal career relevancy in a world of transformative change, you can make career and education decisions with confidence. The list highlights technologies that are now and will continue to transform present and future careers. As you read through the list, ask yourself how each one will play a key role in your industry and your personal career path.

1. **Mobile Hardware, Software, and Interactive Services** will continue to rapidly evolve, creating many new careers, as all phones become smartphones, wearable capabilities expand, and our primary computer and tablets continue to evolve as our laptop replacement. This new level of mobility will allow any size business to transform how it markets, sells, communicates, collaborates, educates, trains, and innovates. **Augmented Reality (AR)** and **Virtual Reality (VR)** will become increasingly mobile, playing a major role in direct and indirect job creation.
2. **Remote Visual Communications** is rapidly evolving into a primary relationship-building tool for businesses of all sizes as employees use smartphones, tablets, and laptops, in combination with current enterprise-level video conferencing systems combined with mobile conferencing apps, to communicate at new levels with customers, partners, and employees.
3. **Social Business Enterprise Management** will continue to grow rapidly as organizations shift from an Information Age "informing" model to a Communication Age "communicating and engaging" model. New careers will emerge as Social Software for business rapidly grows with applications to

enhance relationships, collaboration, networking, social validation, and more. Social Search will increasingly shape careers as marketers, researchers, and those on Wall Street create applications and services to tap into millions of daily tweets, Facebook conversations, and much more, providing real-time analysis of many key consumer metrics.

4. **Cybersecurity and Forensics** careers will grow rapidly as we become increasingly connected and dependent on computer systems and machines using intelligent sensors connected to just about everything. Careers in data and information forensics will grow rapidly as the need to solve cyber crimes increases.
5. **Additive Manufacturing (3D Printing)** will create many new careers in manufacturing as this revolutionary technology allows any size company to manufacture quickly, locally, and with far fewer costs. Additive manufacturing builds things by depositing material, typically plastic or metal, layer by layer, until the final product is finished. Examples of final products today include jewelry, iPhone cases, shoes, car dashboards, parts for jet engines, prosthetic limbs, and much more.
6. **Virtual Reality (VR), Augmented Reality (AR), and AI enhanced Simulations, coupled with the Gamification of Education**, will create many new careers as corporations and educational institutions at all levels accelerate learning by using advanced simulations, VR, and skill-based learning systems that are self-diagnostic, interactive, game-like, and competitive, all focused on giving the user an immersive experience thanks to a photorealistic 3D interface.
7. **Advanced Cloud Services and Virtualization** will be increasingly embraced by businesses of all sizes, as this represents a major shift in how organizations obtain and maintain software, hardware, and computing capacity. IT is rapidly becoming an on-demand service that is rapidly transforming all business processes, resulting in a rapid evolution of current careers as well as creating new careers in every functional area.
8. **Big Data and Real-Time Analytics** describe the technologies and techniques used to capture and utilize the exponentially increasing streams of data with the goal of bringing enterprise-wide visibility and insights to make rapid critical decisions. This new level of data integration and analytics will require many new skills and cross-functional training in order to take advantage of new opportunities as well as break down the many data and organizational silos that still exist.
9. **AI, Machine Learning, and Intelligent ePersonal Assistants (Chatbots)** using natural language voice commands was launched with Apple's Siri, which was rapidly followed by Google, Microsoft, Amazon, and others all offering what is rapidly evolving into a mobile electronic concierge on your phone, tablet, and television. The technology will rapidly evolve, and soon every profession from retailers to maintenance workers will have an Alexa-like assistant. Adding an epersonal assistant to support an existing product and/or service will create many new careers.
10. **3D Web** will transform today's Internet experience (which is like looking at a flat piece of paper with a few photos, embedded video, and a few hyperlinks) to a true 3D experience, similar to today's video games, where you can virtually walk into a showroom, look around, and both listen to and see the new car you are interested in, or whatever the website is trying to show you. This will employ many new graphic artists, designers, and programmers.
11. **Connected Intelligent Sensors and Machines** using chips, microsensors, and both wired and wireless networks will create a rapidly growing **Internet of Things (IoT)**, sharing real-time data, performing diagnostics, and making remote repairs. Many jobs will be created as we add intelligent

connected sensors to bridges, roads, buildings, homes, and much more. In just a few years, there will be well over a billion machines talking to each other, and people will install them.

12. **Advanced Robotics and Automation** will take a giant leap forward thanks to networked sensors, artificial intelligence, and Amazon-like voice communications, taking the next level of repetitive jobs from humans. This will create many new career opportunities from design, programming, and installation to service and maintenance to name just a few.

You don't have to know the physics of a telephone in order to use it. You do have to know it exists and how to creatively use it to accomplish your goal. Don't wait until next year or the year after, or until you're laid off. Invest the time to identify what you need to learn right away so that you will thrive both now and in the future, either in your current career or a new one.



About the Author:

DANIEL BURRUS is considered one of the world's leading technology forecasters and innovation experts, and is the founder and CEO of Burrus Research, a research and consulting firm that monitors global advancements in technology driven trends to help clients understand how technological, social and business forces are converging to create enormous untapped opportunities. He is the author of six books including The New York Times best seller [Flash Foresight](#). This article is reprinted with permission. Reproduction without permission is strictly prohibited. For reprint permission, contact Burrus Research, Inc. at office@burrus.com.



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