The workplace is changing in ways not due entirely to the introduction of new technology or new philosophies of management. The workforce itself is changing. The rise of the millennial generation brings workers who are more introspective, more connected to the world and their community, and less willing to align themselves to the needs of employers.
For organizations like NASA, which rely on the knowledge, commitment, and skilled leadership of its people, the millennial generation joining the workforce as baby boomers retire will create challenges across the next several decades. Understanding something about this generation can help organizations make the best use of its many talents.

Who Are the Millennials?
The millennials were born between 1980 and 2000. Demographers call them the millennial generation, but they have other names as well: the MyPod generation, GenY, baby boomlets, or the boomerang generation. The oldest members of this generation are beginning to join the workforce now.

In the United States, the millennials have watched their parents shift from a long-term employer to an outsourcer on short notice. They have seen a steady increase in foreign manufacturing while domestic manufacturing jobs wane. Many live in single-parent homes, and many in homes where both parents work. They have witnessed highly publicized corporate scandals, critical failures in iconic programs like the Space Shuttle, and relentless scrutiny of the business practices of successful firms. And they have heard parents and relatives complain about the retreat of employers from comprehensive health care and long-term retirement security.

This is also a generation characterized by high levels of health, prosperity, and education. From an early age they have had access to health care and a massive day care system; they have graduated from college in unprecedented numbers. Their lives have been more structured than their parents', filled with the practices, rehearsals, events, and recitals their participation in sports and arts entails.

In their limited unstructured time, they have turned from the passive entertainment of television and imaginative engagement of literature to exploring, connecting, and collaborating in the personal, dynamic, virtual world of the Internet. Unlike previous generations, they see their lives as more or less a seamless experience, where anything that interests them is part of the whole, and the traditional distinctions between work, life, learning, and service are blurred or eliminated.

Their learning, their knowledge of world events, and their lives online have shaped a generation that is self-reliant and entrepreneurial, a generation easily bored and technically savvy. Perhaps most disturbing to employers is this generation's emerging propensity to give up money and economic benefits for time.

Many millennials do not have a firm attachment to the idea of career, instead seeing new opportunities in diverse areas as opportunities to learn. This attitude is not unique to young people joining the workforce now but appears endemic to the millennials, who, many believe, will continue to behave in this way throughout their work lives.

The life experiences of the millennials have so far created a generation that possesses these traits:

- Lacks trust in corporations
- Focuses on personal success
- Has a short-term career perspective
- Is quickly bored
- Is team oriented
- Builds community
- Sees no clear boundary between work and life in general
- Is socially responsible
- Will sacrifice economic rewards for work–life balance
- Expects to work anytime, anyplace

These characteristics create new challenges for managers. Because of the magnitude of the shift from baby boomers to millennials, it is unlikely that organizations will successfully reorient the millennials to what has come to be considered a traditional work ethic; rather, the workplace will need to adapt to the attitudes and needs of this generation.

Knowledge and Talent Retention
Millennials consider their knowledge and skill more as a source of employment mobility than of career growth. Many see their knowledge as personal and portable, not organizational and collective. When it is communal, it is very communal, openly shared across their networks without regard to boundaries.
Social networking sites often reflect a disregard for boundaries and an open, exploratory view of learning, where the search for an answer, the journey itself, is as well documented as the conclusion, if a conclusion is ever arrived at.

Microsoft has developed the following guidelines that may help organizations retain and attract millennial talent:

- Create engaging environments that inspire, challenge, and motivate employees
- Integrate millennials into a variety of projects, assignments, and career opportunities
- Favor flexible work schedules, locations, and arrangements (telework, work at home, and job share)
- Use the diverse experiences and backgrounds of the workforce to create innovative work environments that challenge assumptions and create new opportunities
- Harness personal talents and skills by creating opportunities for people to contribute in a variety of roles
- Involve them in collaborative, team-based projects and environments
- Allow and support the pursuit of personal and social outside activities
- Create effective training and mentoring opportunities
- Harness knowledge created “just in time” through personal networks and recognize contributions from new methods of work

Of course, organizations should take their own cultures into account when preparing for the millennial workforce, but they will need to take a hard look at their behaviors and values and decide if they are worth retaining if they limit access to the knowledge and skills of the next-generation worker.

Process Continuity
Maintaining knowledge across the life cycle of a long program has always been a challenge. In the past, though, most job changes were internal or upward within a team, and expertise remained available. The next-generation worker’s interest in a diversity of experience may lead to high rates of turnover. This means that organizations will lose knowledge unless they can find ways to rapidly transfer it to new members, or to retain it in knowledge bases or other codified forms. We at Microsoft are seeing a growing use of wikis and blogs as impromptu knowledge bases.

Microsoft sees “reciprocal mentoring” as an effective means for transferring skills. Experienced engineers, for instance, can help new peers better understand the business and the politics of the organization, as well as some of the practical wisdom of their engineering experience, while new employees challenge assumptions about how technology is used and help mentor older employees in new ways to apply it.

This kind of learning does not exclude more focused time where individuals learn from each other outside the work experience, but it does offer a way for employees to model the lifelong learning process while taking advantage of its outcomes. Reciprocal mentoring is a skill that will take time to master, but it has the potential to engage employees by providing clear value to both parties.

Professor Birgitte Holm Sørensen from the Danish University of Education sees lifelong learning as a core skill in the future. She believes that, as the hierarchy of the classroom gives way to more collaborative learning, students will be encouraged to teach their instructors about technology; she also sees educators acting as project managers who empower teams of students to manage their own educational experiences.* This approach not only models learning but begins to help students appreciate the skills they will need to communicate ideas in a way that helps others absorb them.

Technology creates an opening for modeling lifelong learning and a mechanism for delivering it. Many businesses adopt a wide variety of collaboration technologies that help them take advantage of talent in a distributed workforce and retain knowledge from employees leaving a company. These techniques will continue to improve, but they are sufficiently advanced to be effective tools today. As engineers experiment with new forms of learning, they will influence the design and implementation of future tools that will provide them with the capabilities necessary to more easily and effectively deliver continuous learning within their communities, and beyond.

Leadership
I recently received a call from a large aerospace firm asking how they could retain millennials more effectively and encourage them to go into management. They were experiencing higher
than average turnover rates and had found that their millennial generation employees were not interested in joining the ranks of management. To find future leaders among the millennials, organizations must create an environment that encourages them to consider career over complete autonomy. That means organizations will need to rethink leadership and management and make them more distributed.

One way is to think about projects as communities rather than teams. Leaders are assigned in teams but emerge in communities. By embracing the emergent behavior of communities, projects can take advantage of the skills of multiple leaders, each directing an aspect of a project.

Top-down or command-and-control methods will prove less effective for the next generation, but millennials can be brought together for a mission they consider meaningful. Defining the mission, and remaining flexible enough to refine and redefine it, will create an environment in which leaders will emerge. Millennials with effective skills that include leadership abilities will emerge as leaders in projects despite aversion to a long-term commitment to management as a career.

**Discontinuity**

The coming retirement of baby boomers will be an upheaval unprecedented in size and impact. Organizations that thrive will be the ones that use their imagination, adapt quickly to change, entice employees with opportunities for learning, and retain them because they continue to challenge them and empower them to use their knowledge and skills to benefit both the organization and their team. During the next few years, we are likely to see movement away from traditional annual reviews and toward rewards based on project work. It is likely that many more “employees” will be or act like freelance workers. The workplace will experience increasing shortages of highly skilled workers who can engage or lead the most innovative work.

So organizations will face a discontinuity. They will enter a world where it is imperative to be a learning organization, where employees engage each other in intensive learning experiences after they are hired. The most important items on the résumé will be proof of the ability to learn, to incorporate, to synthesize learning, and to turn new knowledge into new value. Rather than a “nice to have” capability, project managers in the future will need to balance technical expertise with learning and teaching skills. Acquisition of known skills will be important to organizations, but the invention and acclimation of entirely new skills will be equally so.

Many successful workplaces will be characterized by emergent behavior, emergent leadership, and emergent communities. The outcomes of many projects may emerge from the process of carrying them out. The tension between change and consistency can be a source of innovation. The short half-life of technology, high workforce turnover, and political and scientific uncertainty will generate emergent opportunities. Embracing those opportunities will lead to innovation, shunning them to underperformance and uninspired design. Being associated with lagging technology will not satisfy the tech-infused, chronically attention-shifting millennials. They will demand an environment that inspires, one in which they are both the aspirants and the inspiration. That will mean a fervent striving toward innovation that must be satisfied to retain them. This striving may well take the new models of social interaction and open innovation in directions that are inconceivable today.

In many ways, this generation will act on what the baby boomers already know. The linearity and control promised by PERT and Gantt charts have always been something of a myth. Rapid global communication and unprecedented transparency force organizations to give up even the pretense that long-range forecasts and plans are meaningful. Social change, as well as technological change, will surprise and confound us. But if we accept the value of tools like scenarios to help navigate multiple futures, avoid rigid forecasts in favor of futures that emerge from the uncertainties that surround us, and encourage and employ the talents of our millennials, we may find new doors to innovation.

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As director of Information Work Vision in Microsoft Corp.’s business division, **Daniel W. Rasmus** guides the research process that allows Microsoft to envision how people will work in the future. As part of these efforts, he manages the Future of Information Work scenario program, represents Microsoft on the Board of the Directors for the Institute of Innovation and Information Productivity, and helps guide future-oriented experiences, like the Center for Information Work.