How do you boost an organization’s creative potential? We asked some of today’s most innovative leaders.

It’s one of the toughest challenges an executive faces: How do you get your people to think creatively – to challenge the status quo – while still keeping your everyday operations running smoothly? Innovation is not like most other business functions and activities. There are no reliable templates, rules, processes, or even measures of success. In a sense, each act of innovation is a unique feat, a leap of the individual – or the collective – imagination that can be neither predicted nor replicated. Innovation, in short, is anything but business as usual.

And yet certain organizations are somehow able to come up with great ideas over and over again. Some of the ideas are for new products, some for new ways of working, others are for new strategies, still others for entirely new lines of business. Is there a secret to these companies’ successes? Can other organizations learn from their examples? To find out, we turned to the people most qualified to answer – not necessarily inventors (although you’ll find a few of them in the group) but those who’ve been able to inspire others to creative genius. We asked them a single question: “What’s the one thing you’ve done that most inspired innovation in your organization?” Here’s what they had to say.
**Make It the Norm**

Craig Wynett is the general manager of future growth initiatives at Procter & Gamble in Cincinnati.

What we’ve done to encourage innovation is make it ordinary. By that I mean we don’t separate it from the rest of our business. Many companies make innovation front-page news, and all that special attention has a paradoxical effect. By serving it up as something exotic, you isolate it from what’s normal. Companies don’t trumpet their quality assurance processes or their packaging as special practices because they’re part of the fiber of what they do—they’re ordinary business. The same has to be true of innovation. Too many times we’ve seen corporate innovation programs that are the business equivalent of football’s Hail Mary pass—they start with all kinds of hope and excitement, but in the end they rarely produce results. And why would they? For innovation to be reliable, it needs to be addressed systematically, like any business issue in which you define the problem and then solve it: What do we want to accomplish, and how? What resources will we need? Who will be on the team? How do we motivate and reward them? And how will we measure success?

Today’s most sought-after business talent is the ability to originate. But the perception of the creative process is still based on self-limiting assumptions about eureka lightbulbs flashing over the head of some inspired genius rather than the well-managed diligence of ordinary people. At P&G, we think of creativity not as a mysterious gift of the talented few but as the everyday task of making nonobvious connections—bringing together things that don’t normally go together. One way to do that is to look at contradictions in the marketplace. For example, we developed a product called ThermaCare, a disposable heating pad that provides regulated low-level heat for at least eight hours. How’d we come up with it? Lots of aging baby boomers out there have all kinds of creaks and muscle twinges. Drugs can treat the pain, but they can also create other problems, like stomach ailments. So you have a contradiction: People don’t want to live with pain, but they don’t want to take painkillers. We saw that contradiction in the market and viewed it as an invitation to create a breakthrough product, one that resolves a paradox without requiring any trade-offs. You can see how opportunities like this can come up in just about any industry. In the telecommunications business, before call waiting, for example, you could either talk on the phone or receive phone calls but not both.

A final word of caution. Isolating innovation from mainstream business can produce a dangerous cultural side effect: Creativity and leadership can be perceived as opposites. This artificial disconnect means that innovators often lack the visibility and clout to compete for the resources necessary for success. Only when innovators operate with the credibility of leaders will innovation become a productive part of everyday business.

**Put Aside Ego**

Thomas Fogarty invented the first balloon catheter to be used therapeutically. He practices cardiovascular surgery at Stanford University Medical Center; creates companies that develop and market his medical device designs; and is a cofounder of Three Arch Partners, a VC firm in Portola Valley, California, that funds medical start-ups.

The most important thing, I’ve found, is to help people broaden their perspective. In medicine, the definition of a better way to do something often depends on whether you’re the giver or the recipient of care. For example, I’m involved in a company that diagnoses sleep apnea. Currently, a patient has to subject himself to what’s known as a diagnostic sleep lab. He’s taken out of his normal environment—his home—and put into an artificial environment where he’s hooked up to three separate monitors that check heart rate, breathing, and blood oxygen levels and attached to myriad other devices. It costs him $2,000. A physician would say, “That’s how to make the diagnosis; what’s wrong with it?” But if you talked to a patient, you’d find there’s a whole lot wrong with it. Consequently, if you want to improve the experience from the patient’s perspective,

“One of the hardest things about innovation is getting people to accept that the way they work just might not be the best.”
you’d make the diagnostic procedure less expensive and intrusive, and you’d make it available in his home.

Getting people to expand their views— to see a situation through others’ eyes— often raises ego issues. People don’t want to believe that they’re doing things in ways that are less than optimal. In fact, one of the hardest things about innovation is getting people to accept that the way they work just might not be the best.

Mix People Up

Lieutenant General Ronald T. Kadish is the director of the Missile Defense Agency in the U.S. Department of Defense. The MDA is responsible for acquiring ballistic missile defense systems for the U.S. armed forces.

One of the surest ways to get a job done more innovatively is, quite simply, to reorganize frequently. When you put people into a new structure, it stimulates them to rethink what they’re doing on a day-to-day basis.

I’ve reorganized the Missile Defense Agency on a major scale twice in less than two years. Why? We needed to transform ourselves from an organization dedicated to scientific experimentation to one focused on the design and acquisition of weapons. The technologies we’d been working on for 20 years had become sufficiently mature that we could actually start developing effective systems, and the geopolitical environment had changed to the point where we had a mandate to move forward. We needed to orient people toward a new goal, and reorganizing was one way to do that.

It’s traumatic for most people, especially in very hierarchical organizations like ours. But on balance, I find that people respond well if you can get them to focus not on the inconveniences of restructuring but on the satisfaction of setting high goals and then knocking down the barriers to achieving them.

Don’t Fear Failure

Michael Dell is the founder, chairman, and CEO of Dell Computer in Austin, Texas.

At Dell, innovation is about taking risks and learning from failure. Today, we’re well known for inventory management, logistics, supply chain management, and such, but that wasn’t always the case. Back in 1989, we had a very large disaster—large, at least, for the small company we were at the time. The personal computer industry was making the transition to a new type of memory chip, and we found ourselves stuck with far too many of the old kind.

That was a costly mistake, and it took us about a year to recover, but we learned from it. The failure led us to develop a new way to manage inventory, and we went from being last place in the minor leagues to where we now win the World Series every year.

To tap into that kind of innovation, we do our best to make sure that people aren’t afraid of the possibility of failure, and we do a lot of experiments. For instance, one of our managers in the consumer group came up with the idea to offer installation service to consumers in order to reach people who might be apprehensive about setting up a new computer. The idea seemed like it would help out a group of customers, and it made a lot of sense from a cost standpoint as well. We knew from our experience with business customers that when our staff installs a computer, the incidence of setup failures is almost zero. The consumer team threw around the idea, did a pilot with one group of salespeople, and found out what worked and what didn’t. Within two weeks, we’d made this service available to every consumer in the United States. I actually found out about this by accident—it wasn’t something that we had a bunch of meetings about in boardrooms. Incremental improvements and experiments happen all the time.

One other thing: You need to encourage innovation when your company’s doing well. The last thing you want to do when you’re in the lead is become complacent.”
**Hire Outsiders**

**Hal Tovin** is the group executive vice president of the Emerging Channels Division of Citizens Financial Group, headquartered in Providence, Rhode Island. He directs the bank’s ATM and debit card business, in-store banking, business banking, and on-line banking and Internet strategy.

The most important step I’ve taken to encourage innovation is to hire people who have experience outside of banking – creative people who can apply what they’ve learned in dynamic, customer-centric categories to our more traditional businesses. For example, our in-store banking business – we’ve put full-service branches into grocery stores – is run by a person with a sales and marketing background. Our ATM business is run by someone who used to be in real estate. I myself am a classically trained marketer of packaged goods.

Employing people with diverse skills and talents helps us challenge the status quo when developing business strategies. Most banks, for example, look at in-store banking as a service for existing customers. We take a very different view; we use our grocery store branches to acquire new customers. We hire people from retail stores like the Gap, Macy’s, and Starbucks and screen them for what we call BVAC characteristics: bright, verbal, assertive, creative. The staff go into the grocery aisles wearing their Citizens aprons, pushing their Citizens grocery carts with promotional offers, and getting into friendly conversations. Their objective is to develop relationships with store customers. Then when shoppers have banking needs, they’ll find a familiar face at the bank. The result is that we’ve built a billion-dollar bank in just our in-store branches.

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**Abandon the Crowd**

**Larry Keeley** is the president of Doblin, an innovation strategy firm with offices in Chicago and San Francisco.

A nearly universal misconception about innovation is that the ideal goal is to create the next hot product. That’s why most companies focus their R&D dollars there. But because it’s increasingly easy for other companies to copy any new product, you rarely get a return on those investments. So the principal thing we’ve done to encourage innovation is to help people see that there are actually many types of innovation – product innovation is one type, but so is innovation in customer service, in business models, in networking, and so on.

Consider the Chrysler mini-van. Chrysler developed it at a time when the company was on the verge of bankruptcy. It created the van as a platform and depended on a network of suppliers to develop family-oriented advances that could be plugged into the platform – video games, removable seats, integral baby seats that fold down so beleaguered parents don’t have to wrestle with them. The suppliers had to bear the cost of the R&D. That’s an example not of product innovation but of networking innovation.

Companies miss out on all sorts of opportunities for innovation because they focus so closely on their competitors. If you map out the different types of innovation activity in a given industry, you’ll almost always find that most organizations are concentrating on the same types – they’re all investing in the same things, just to keep up. There may be a lot of activity in customer service innovation, for example, but nothing’s happening in networking.

Mapping innovation activity gives you a sense of the terrain – the peaks and valleys in investments and actions. There’s an old saying that “there’s gold in them thar hills.” Well, there may be even more gold in them thar valleys. You can actually spend less and make more money in innovation if you pay attention to the valleys, those places your competitors have overlooked.

“You can actually spend less and make more money in innovation if you pay attention to the valleys, those places your competitors have overlooked.”
Let Go of Your Ideas

Nolan Bushnell is the CEO of uWink, an entertainment and game network located in Los Angeles. A longtime Silicon Valley pioneer, he founded Atari, the world’s first video game company, in the early 1970s. He is also the founder of Chuck E. Cheese’s Pizza Time Theater.

I think it’s essential to build a culture where there’s no such thing as a bad idea. At uWink, for example, we have regular “compost” sessions to come up with new game ideas. We don’t debate their value. Our priority is simply to get as many ideas as possible out of individuals’ heads and into the group’s heads. The ideas then become collective problems or puzzles that percolate throughout the group. And a couple of months later, someone—very often not the person who came up with a particular idea—has a breakthrough insight that allows us to move forward.

In software, especially, the best ideas lose their owners and take on lives of their own. We have very fast product life cycles, so I believe in a tough love approach to new product development. Give people too much time, and a project can become a breeding ground for internal politics. Likewise, too much money can become a crutch for creative thinking. Firm deadlines and tight budgets keep people focused on creating viable products and getting them to market as soon as possible. There’s no substitute for getting something on the shelves and hearing what customers have to say. The true test of any innovation is how the marketplace responds.

Don’t Underestimate Science

Luciano Maiani is the director general of the European Organization for Nuclear Research (CERN), based in Geneva. Some 6,500 scientists, half of the world’s particle physicists from laboratories and universities all over the globe, do research at CERN.

Our primary obstacle to innovation is getting funding. There’s a general belief among non-scientists that particle physics will not yield the kind of commercial applications that physics research did in the twentieth century. Very often I hear from member states that provide funding to CERN, “What could we possibly do with an understanding of quarks?” My answer is that pure science always drives innovation just as much as markets do. An incredible amount of technology transfer happens during R&D, when we’re building the advanced tools needed for large-scale experiments. The most well-known example is the protocol for the Web, which was developed at CERN. But there’s also a range of potentially promising applications—medical-imaging applications, for example—coming out of the R&D from our accelerator, the Large Hadron Collider.

I always try to make technology transfer very visible by urging our research scientists to file patents on their R&D breakthroughs and to seek out joint ventures to develop commercial applications. As a particle physicist, I know the value of pure science. But in this day and age, it’s wrong to argue that pure science is all that matters. Science and technology go hand in hand.

Fight Negativity

Mike Lazaridis is the founder, president, and co-CEO of Research In Motion, a maker of a range of wireless solutions including BlackBerry, which connects users to their corporate e-mail and to other information through wireless data networks. The company is located in Waterloo, Ontario.

Innovation is like professional sports: It looks easy, but when you’re on the field, you see how complicated and difficult it is. To me, the key is building conviction. Few companies have the conviction to proceed down a path in the face of differing opinions from the industry, competitors, analysts, and the media. When companies get discouraged by these challenges and lose conviction, they make mistakes.

Also, one of my cardinal rules is, “Always hire people who are smarter than you.” I tell people, don’t worry about your job. Find people who can do it better than you.
Ask “What If?”

Mark Dean is an IBM Fellow and the vice president of systems of IBM Research in Yorktown Heights, New York. An engineer and inventor, he has more than 30 patents or patents pending, including three of IBM’s nine original PC patents.

Since December 1999, IBM has been working on a project called Blue Gene, which is a computer designed to model the protein-folding process in genetics. That work will require a huge advance in computing power, and we’re using a radical approach to allow a very small machine to perform more than one quadrillion operations per second (a petaflop). Moore’s law – that the amount of information able to be stored on a transistor will double every 18 months – predicts that it will take us 15 years to produce those calculations, but we’re on course to deliver them in five.

We can aim for this kind of breakthrough at IBM because the company places very few constraints on its researchers. We are continually encouraged to spend time exploring new ideas and asking “what if?” questions, and we’re allowed to pursue the ones we think have the most promise. For instance, the PC/AT that IBM launched in 1984—which featured an enhanced way to make peripherals work efficiently with a PC or PC compatible—was developed from something I’d been doing in my spare time. I have to say the only constraint I’ve ever felt deeply is the number of hours in the day.

I try to create that same unconstrained environment in the project teams I oversee. I do, of course, try to provide focus, set reasonable goals, and map out timelines. I also stress the importance of getting something out there, even if the product isn’t 100% of what we envisioned. Researchers always want to go for that last 2% of performance, but I have to remind them that it’s better to get a sufficient solution out fast and then continue to enhance it. My main role, though, is not to draw the boundaries but to encourage people to keep reaching. People have a lot of great ideas, if you give them space to do their thing and create an environment that is collaborative, not competitive—if you never say “that’s silly” when they’re thinking out of the box.

Merge Patience and Passion

John Talley is the vice president of drug discovery at Microbia in Cambridge, Massachusetts. He led the chemistry team at Pharmacia that found Celebrex, an anti-arthritis drug, and received the Pharmaceutical Research and Manufacturers of America Discoverers Award 2002.

I have been able to foster among people on my team a passion for our work. You need that passion because what we do is just so darned hard. Almost 80% of the people who go into medicinal chemistry retire never having worked on a discovery that leads to a commercial product. So if you get bummed out every time you make a lousy compound, you’re going to have a pretty miserable life.

A mandatory partner to passion is diversity. People with different scientific backgrounds will bring different frames of reference to a problem and can spark an exciting and dynamic exchange of ideas. If the tools you’re working with are hammers, you don’t want all problems to be seen as nails.

The science is just so much more interesting with passion and diversity. Look at what happened when we worked on Celebrex. Ever since aspirin was introduced in the United States at the end of the nineteenth century, chemists have been trying to make better nonsteroidal anti-inflammatory compounds. One problem everyone’s encountered is that the enzyme that causes painful inflammation also helps protect the stomach lining from digestive acids. So when a painkiller blocks inflammation, it also can cause serious gastrointestinal problems.

Some of our colleagues had evidence that the form of the enzyme that induced inflammation was slightly different from that which protected the stomach, so we set out to find a molecular compound that would block only the form that induced inflammation. We went down so many fruitless alleys and made a lot of
dead-end compounds. We combed through mountains of literature to see if someone had once made such a compound and not known it. Sure enough, we found a compound created in the early 1980s that partially inhibited this enzyme. That was one of those eureka days. But we were now about 2% of the way there; we still had to find out how to turn the compound into a safe and effective drug. Even when we put the drug into clinical trials, we didn’t expect to know for years whether it would make it to market.

In fact, Celebrex had an almost record journey from the lab bench to the pharmacy shelf: seven years from the time we started work on the project. In an environment with these kinds of time frames, you need passion to sustain you. Nevertheless, it’s important that your passion not blind you to the fact that sometimes you need to kill a project—and kill it fast. Before our chemistry team began working on what turned out to be Celebrex, we were working on a blood pressure drug. Although it was clear that that research ultimately wouldn’t yield a product, some people on the team had emotional attachments to the technology and had a hard time letting it go. But if we hadn’t moved on, we wouldn’t have Celebrex.

**Outsmart Your Customers**

Marcian E. “Ted” Hoff is the chief technologist of the consulting firm FTI/Teklicon in San Jose, California. One of the first employees of Intel, he is credited with being an inventor of the microprocessor.

You have to be able to bend the rules. Back in the 1960s, when I was with Intel, a calculator company named Busicom asked us to manufacture a set of 12 custom chips for some new calculators it was planning to introduce. Each chip would be dedicated to performing a single function. I hadn’t worked on calculators before, and I was surprised to see the complexity of their design. I wondered if it would be possible to have one chip, a general-purpose central processor, that could be programmed to do all the functions. My frame of reference was some recent minicomputer designs, which were very simple but which enabled you to do a lot of complex things. To its credit, Intel’s upper management was open enough to let me experiment with my idea. Those managers allowed me to break a cardinal rule of business: Always do what the customer wants. We didn’t do what the customer wanted. We did something better.

**Experiment Like Crazy**

Betty Cohen is a corporate strategist for the Youth Segment at the Turner Broadcasting System. She is also the founder and former president of Cartoon Network Worldwide. Both organizations are headquartered in Atlanta.

My favorite way to encourage innovation is to take an experimental approach to R&D. A couple of years ago, the cable world was abuzz with talk of convergence, but nobody really knew what that meant. Since it was a brave new world, we recognized that we had to experiment with a variety of experiences for Cartoon Network fans that brought together on-air and on-line participation with the channel. I encouraged my TV and on-line creative leaders to plot three different approaches to the future, and I also set an expectation of learning, knowing that some ideas would play better than others but that we’d end up with insight about why each played like it did. And then we tested everything—from simulcasting Web and TV versions of the same cartoon character premier to a live on-line viewer request weekend to a more interactive on-line action and adventure show.

“What prevents innovation? The dangerous brew of fear and complacency—staying where you are out of fear of failing, of blowing too much money, or of placing the wrong bets.”
Make It Meaningful

Daniel Vasella trained as a physician and is now the chairman and chief executive officer of Novartis, a pharmaceutical company based in Basel, Switzerland.

One way we try to foster innovation—both the technological innovation that leads to new drugs and the organizational innovation that improves the way we do business—is to align our business objectives with our ideals. Doing so reaches people’s intrinsic motivation. Certainly, extrinsic motivation is important; we offer stock options to our scientists and sponsor company research awards that enhance a researcher’s visibility both within and outside Novartis. But I believe that people also do a better job when they believe in what they do and in how the company behaves, when they see that their work does more than enrich shareholders.

In the past few years, we have complemented our goal of economic value creation with another goal: good worldwide corporate citizenship. So while we’re developing what we hope will be blockbuster drugs for the developed world, we’ve agreed, for example, to donate our leprosy multidrug therapy to the World Health Organization until the disease is eradicated. We also recognize that many ailments pervading the poorest countries are neglected diseases, with few R&D resources dedicated to finding treatments. With this in mind, we founded a research center in Singapore that focuses on developing drugs to treat diseases such as dengue hemorrhagic fever and tuberculosis; in all likelihood, such drugs will be barely profitable at best.

These activities have deep meaning for our employees and unleash their energy and enthusiasm. With regard to our breakthrough cancer drug Gleevec (called Glivec in the United States), for instance, our researchers overcame every obstacle to develop the drug, and our production teams worked around the clock to produce enough supply for clinical trials. The alignment of objectives, ideals, and values contributes greatly to the motivation and thereby the energy that employees at all levels, myself included, devote to their work.

Stop the Bickering

David Falvey is the executive director of the British Geological Survey, which has its headquarters in Keyworth, Nottingham, United Kingdom. In 2001, the organization was named to Vision 100, a listing by British Telecommunications of the most innovative organizations in the United Kingdom.

When I joined the British Geological Survey in 1998, I found a hierarchical organization structured around the various disciplines and subdisciplines in geology. These had developed into competing empires, and collaboration on creative approaches to a customer problem was, at worst, unthinkable, and, at best, forced.

The key to spurring a wave of innovation was creating a structure and climate that ended the internal competition. I stopped the rivalries between divisions not by dismantling the divisions but by eliminating people’s affiliation with them—I created a matrix structure. A program, headed by a manager, would be responsible for a range of projects. But the people working on those projects would come from a human resource pool whose allegiance would be to the mission of the organization rather than to a specific program. Just as I think of myself as an Australian rather than as a citizen of Sydney or New South Wales, so our scientists ideally feel like members of the BGS community rather than, for example, the Economic Minerals and Geochemical Baselines Program.

The structural change, in addition to eliminating internal competition, heightened our external competitive focus, which fostered increased innovation. Because the new program managers no longer “own” staff members, they have to devise projects that are interesting enough to attract people. Furthermore, because staff members don’t have enforced loyalties to particular groups, they feel free to speak up with suggestions that can benefit the entire organization.

That change wasn’t easy. People hated letting go of their identification with specific divisions. And I was a foreigner coming into a very old

“People do a better job when they believe in what they do and in how the company behaves, when they see that their work does more than enrich shareholders.”
organization—one founded in 1835. When you’re a new chum, you can’t just walk in and say, “Right, guys, we’re going to do it this way now”—unless you bring a sledgehammer. So we spent two years in discussions, gradually winning consensus for the change. The change was more orchestrated than directed by me; the orchestra members brought about change for themselves.

Don’t Innovate, Solve Problems

Esther Dyson is the chairman of New York–based EDventure Holdings and the author of Release 2.0: A Design for Living in the Digital Age. She is an active investor in and adviser to a wide range of young IT companies in the United States and Europe.

I question the assumption that companies should try to inspire innovation. I don’t try to encourage creativity for creativity’s sake; instead, I try to encourage creative solutions to real problems. Innovation is good only if it’s useful. Some companies reorganize every six months just to do something different. What they really need is better internal communication, not a new reporting structure.

So how do you encourage useful innovation? By doing two things. One, you have to promote risk taking—be open to experimentation and philosophical about things that go wrong. My motto is, “Always make new mistakes.” There’s no shame in making a mistake. But then learn from it and don’t make the same one again. Everything I’ve learned, I’ve learned by making mistakes.

And two, you have to give people a reason to be enthusiastic about trying new tools, whether you’re selling the tools or trying to get them used internally. One mistake I made was to think that people would be eager to use e-mail and other collaboration tools. But it’s actually very hard to change people’s habits. One way to get people to use new things is to have the chairman use them—if the chairman is in the hallway talking about something in an e-mail he or she just received, other people in the company will focus on that result and start using it. Experimentation has to start at the top.

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