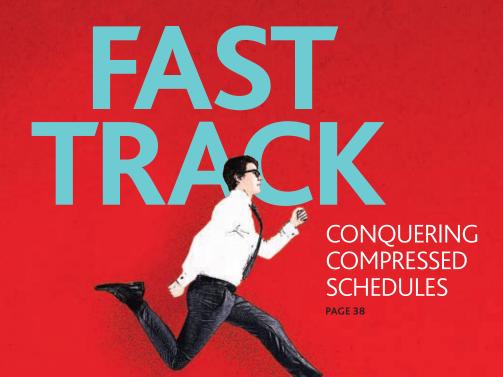
PIVETVOLUME 31, NUMBER 3 (R)



PULSE: PROJECT PERFORMANCE RISES

PAGE 58

U.S. STATE'S **DIGITAL RESTART**DELIVERS BIG

PAGE 44

THE RACE TO **MARS** IS ON

PAGE 8



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MARCH 2017 | VOLUME 31, NUMBER 3

28 From the Ground Up
Brownfield redevelopments
can provide relief for crowder

can provide relief for crowded cities—if project teams effectively manage risks.

By Sarah Fister Gale

38 Pick up the Pace

When schedules are compressed, project managers should focus on team engagement and cohesion. By Kate Rockwood 14 Restart to Finish

After an IT overhaul project crashed and burned, a U.S. state cleared the debris and pushed the reset button. By Novid Parsi

50 Thrill-seekers

Theme park projects don't have to be a wild ride. Here's how project managers keep new attractions on track. By Novid Parsi PMI'S 2017 PULSE OF THE PROFESSION®

Flying Higher

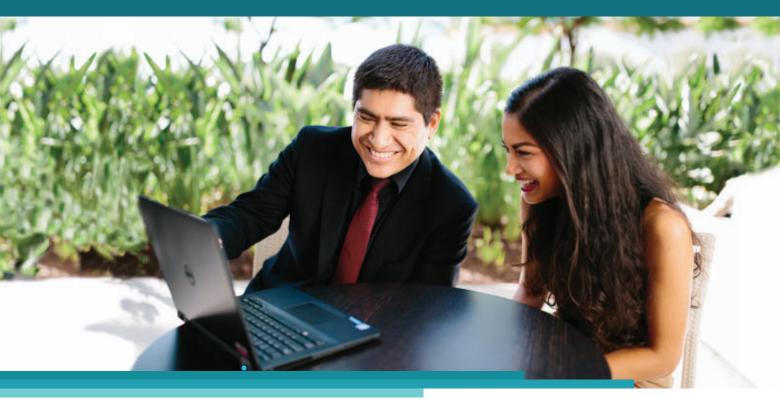
58

Project success rates are (finally) on the rise—and are giving organizations room to grow. By Novid Parsi

62 Spotlight on: Peru

A new president—and maturing project management practices—could help the country reinvent itself. By Catherine Elton

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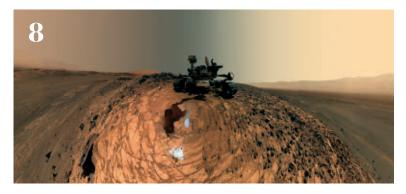
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THE EDGE

- Return of the Jet Age Landmark airport terminal eyes revival.
- Red Planet Race Mars is mission critical for project teams.
- **10 Authentic Imitation** Appetite for meatsubstitute projects grows.
- 11 No Time to Slow Down Turkey's turmoil doesn't slow ambition.
- 12 Born Again Church closings spark redevelopment projects.
- 13 Floating a New Idea Self-driving boats could make a splash.
- **14 Big Data in Flight** New projects help airports solve headaches.
- 17 Crash and Learn Venezuela must manage risk to recover.
- 18 Metrics Leading the Data Charge

VOICES

- 20 Inside Track: The Power to Adapt Cyril Perrotey, PMP, project director and executive director, EDS USA LLC, Criel-sur-Mer, France
- 22 Project Toolkit Banishing Burnout
- **24 Strategy Session** Ignore What Doesn't Matter By Andrew Robinson, PMP

GETTING IT DONE: Project Management in Action

- 25 Bouncing Back After Baby By Deepa Bhide, DCH, PMP
- 26 Delivering the Wow Factor By Amber Simonsen, PMP
- 70 On the Record By Robert Barger, PMP

ETC.

68 PMI Store

A guide examines how project management can support government policy work.

72 Closing Thoughts Darpana Vallabh, PMP





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Return of the Jet Age

Air travel has lost some of its glamour in recent decades. A project to transform the long-vacant Trans World Airlines (TWA) Terminal at John F. Kennedy International Airport aims to bring some of it back. The landmark structure will be renovated and expanded into a hotel, scheduled to open in 2018. The 1962 terminal was designed by neofuturistic architect Eero Saarinen.

The TWA Flight Center Hotel will offer 505 guestrooms, several restau-



But first developers will have to modernize the aging mechanical systems of a building that's been mostly empty since 2001.

midcentury modern design movement.

PROJECT:

TWA Flight Center Hotel

LOCATION:

New York. New York, USA

US\$265 million

GOVERNMENT AGENCIES REVIEWING: 22



A rendering of the terminal and the new hotel building behind it. Above,

the interior pre-renovation

BUDGET:



Red Planet Race

The distance between Earth and Mars is starting to feel shorter.

"The enthusiasm and momentum for sending humans to Mars is higher than it's ever been," Ashwin Vasavada, project scientist at NASA's jet propulsion laboratory, told Bloomberg. "Technologically, it doesn't seem that far out of reach. We can see a path."

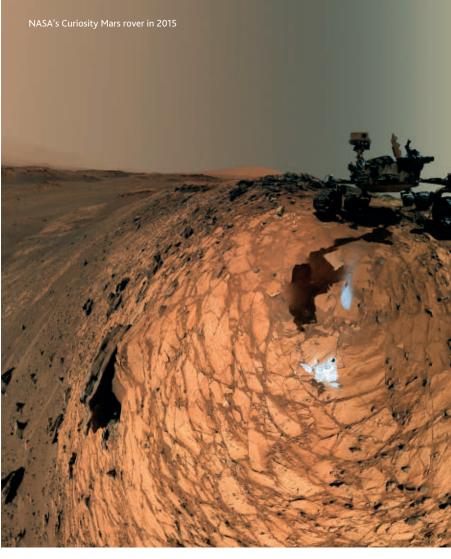
As government agencies and private-sector organizations alike jostle to study Mars and possibly send people there, they're unleashing a spate of new space projects in the process. Boeing and U.S. space agency NASA are in the middle of a joint project to build a space launch system (SLS) rocket, with the goal of using it to send humans to Mars in the 2030s. NASA also has invited government space agencies in Israel and India to collaborate.

India's agency was lauded for its recent project to put a spacecraft into the red planet's orbit, not only because the mission was a success but because the project budget came in at a relatively scant US\$74 million. (The project relied on existing technologies, a lightweight probe and a smaller rocket to reduce costs.)

The yearning extends to China, which is emerging as a major Mars player, while Russia and European space agencies also are working together on exploration projects.

In the private sector, "space has become a fantastic place to invest and see real returns," says Sunil Nagaraj, vice president of Bessemer Venture Partners, Menlo Park, California, USA. The venture capital firm has in the past five years broadened its portfolio to back space organizations.

Investments in space companies reached an alltime high of US\$1.8 billion in 2015, according to consultancy The Tauri Group. Last year, SpaceX





"The enthusiasm and momentum for sending humans to Mars is higher than it's ever been."

 —Ashwin Vasavada, project scientist at NASA's jet propulsion laboratory, to Bloomberg unveiled plans for an "interplanetary transport system" that could get people to Mars in as little as 80 days by the mid-2020s, if test flights go well. Other industry players—Jeff Bezos' Blue Origin, Vulcan Aerospace, United

Launch Alliance—also are pursuing projects to develop reusable next-generation rockets—much cheaper than traditional one-time versions.

But as private companies double down to make the giant leap to Mars, they first must take smaller steps to build necessary capaInvestments in space companies reached an alltime high of

US\$1.8 billion

Source: The Tauri Group

bilities. The SpaceX project, for example, relies on refueling rockets in orbit. But in November, a group of industry experts warned NASA that SpaceX's plans endanger astronauts; the group's concerns grew after one of SpaceX's Falcon rock-



Next Big Thing 140 million miles

kilometers)

Rise in Europe's space exploration spending since 2008, to US\$5.8 billion—while NASA's budget rose only 8.1 percent

US\$1.5 billion

Project budget for the European Space Agency's ExoMars mission to find evidence of life on Mars

US\$100 billion to US\$1 trillion

Source: Bloomberg

ets exploded in September while being fueled at a launch site.

The Boeing-NASA SLS project could create a reliable launch vehicle to reach Mars with a large load, but "that's only 50 percent of the problem," says Mr. Nagaraj. "There's the question of what we need once we touch down on a new world. It's likely that SpaceX or NASA will be the first to get folks to Mars, but this creates an urgent need for a lot of projects to develop new tech and hardware so humans can survive and eventually thrive on Mars."

Let's Get Together

As Mars projects move into the mainstream, public-private collaborations are becoming more common. And for practitioners, that can shift how projects are managed.

"You have to be a bit more flexible on projects for the public industry, particularly around project budget or project management," says Nick Allain, director, Spire, San Francisco, California, USA. Spire, a satellite-focused data company that develops tools to track atmospheric data,

was recently awarded a contract with the U.S. National Oceanic and Atmospheric Administration to build a program to help the agency better track atmospheric conditions.

Project requirements are likely to be different on a government project, he says, and the need for organizational agility is paramount. Internally, having someone on the project team who's experienced with public-private partnerships can be especially helpful. From bureaucracy to communicating expectations, budget constraints and stakeholder management, he says, "how the government works is different."

For Mr. Allain, the recent uptick in Mars interest could be a boon for Spire and other organizations in the broader aerospace industry. The organization doesn't focus specifically on Mars yet, but the growing ambitions give extra weight to projects large and small, he says.

"Our little satellites might end up being one of the largest support components to a Mars mission someday. Personally, we're all rooting for Mars." -Kate Rockwood



"There's the question of what we need once we touch down on a new world."

-Sunil Nagaraj, Bessemer Venture Partners, Menlo Park, California, USA

the Edge

Authentic Imitation

Fake meat is real. But it's up to project teams to ensure that alternatives to beef, chicken, pork or fish—whether sourced from plants or made in a lab—taste just like the real thing.

The global meat substitutes industry is projected to reach US\$5.2 billion by 2020—an annual compound growth rate of 8 percent since 2015,

"Unlike software where you can put something out there and iterate on it very quickly if it's not working, we really had to put something out there that blew people's minds."

—Dana Worth, Impossible Foods, Redwood City, California, USA

according to Allied Market Research. A slew of startups, including SuperMeat in Israel and Beyond Meat in the United States, have launched projects to develop products that replicate the taste and even juice of real meat.

But making flavorful meat substitutes requires massive upfront project funding and time, says Dana Worth, direc-

tor of commercialization for Impossible Foods, Redwood City, California, USA.

For instance, Impossible Foods raised US\$182 million in funding. It budgeted five years of R&D to capture the essence of beef-right down to the scent—to create a plant-based burger. The

> taste tests each day to perfect the product. Such extensive trial and error is necessary, Mr. Worth says, because teams can't afford to leave a bad taste in consumers' mouths by

releasing a product that's not delicious the first day it's on the market.

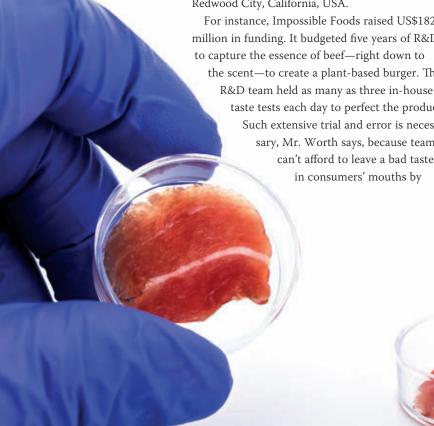
"Unlike software where you can put something out there and iterate on it very quickly if it's not working, we really had to put something out there that blew people's minds," Mr. Worth says. By the end of 2016, Impossible Foods had launched the burger in four restaurants across the U.S.

It's not just vegetarians who crave this fake meat. Other consumers and producers are motivated by animal welfare and environmental concerns associated with conventional meat production.

SuperMeat doesn't rely on plants or animals to make meat—just scientists and a strong project team. The company's lab is using small cells of chicken to grow larger tissue that eventually will become meat. But the organization says it will need US\$2.5 million to create a cost-effective prototype that could validate its product and lead to mass production of so-called cultured meat.

The environment also would benefit. Production of cultured meat would use 99 percent less land, emit up to 96 percent less greenhouse gases and use up to 96 percent less water than today's meat industry, according to SuperMeat.

For all but the most environmentally conscientious consumers, however, flavor tends to matter above all else. So at organizations like Impossible Foods, the guest to perfect faux-meat flavors continues. Says Mr. Worth: "If you're not delicious, nothing else matters." - Christina Couch







neEdge

Born Again

As houses of worship close across the U.S. due to dwindling attendance, secular projects are popping up to transform them into condos, offices and even hotels.

Church sales in the U.S. jumped by almost 100 percent between 2010 and 2015, according to real estate data tracker CoStar Group. During roughly the same time, Catholic parishes in the U.S. declined 4 percent from 2010 to 2016, according to Georgetown University-affiliated Center for Applied Research in the Apostolate. And the number of church redevelopment projects more than tripled. In Washington, D.C., a project is underway to convert the former First Church of Christ, Scientist, into a 226-bed hotel. In Philadelphia, Pennsylvania, another project will transform the former First African Baptist Church into condos and a day care facility.

The uptick in church conversion projects is unlikely to slow anytime soon, especially in urban areas, says Stephen Ferrandi, owner, PraiseBuildings Religious Property Brokerage, Baltimore, Maryland. The company is focused exclusively on U.S. houses of worship. "These churches were built at a time and in an area where people walked to church. Today, people drive to the church where they feel most comfortable, which may not be the neighborhood church, leaving lots of struggling, near-empty city churches," he says.

That was the case at Washington, D.C.'s Imani Temple. As congregation members increasingly moved out of the city, the church's leadership decided to build a new facility in the suburbs. Morningstar Community Development purchased the congregation's historic building and sponsored a project to convert it into six high-end residential units, scheduled to be completed by the second quarter of this year.

But such conversion projects face unique challenges. Shrinking congregations can be cashstrapped, meaning properties might have suffered years of poor upkeep or delayed repairs. Neighborhood and historical preservation restrictions can prohibit conversion to commercial spaces or limit how much the exterior can be altered.

by almost between 2010 and 2015.

Church sales in

the U.S. jumped

Source: CoStar Group

Religious Conversions

Many a choir balcony has become a bedroom, but residential rebirths aren't the only option for churches.



Skate Park: Skaterham

Location: Caterham, England

Project: Convert Guard's Chapel of the Caterham Barracks Trust into an indoor skate park known as Skaterham that includes ramps and quarterpipes as well as a restaurant and skate shop.



Bookstore: Selexyz Dominicanen

Location: Maastricht, Netherlands

Project: Convert a Gothic church into a sleek bookstore. It's not the first reuse: In the past 200 years, the structure has served as everything from a military station to a town archive, warehouse and bike storage facility.



Supercomputing Center: MareNostrum

Location: Barcelona, Spain

Project: Convert the Chapel Torre Girona, used as a Catholic church until 1960, into the home of a supercomputer working on breakthroughs in genetics, weather forecasting and astrophysics.



Floating a New Idea

Self-driving boats could start making waves this year.

A five-year, US\$27 million project sponsored by the Amsterdam Institute for Advanced Metropolitan Solutions and Massachusetts Institute of Technology (MIT) aims to have a prototype ready sometime this year.

The project's goal is to create a fleet called Roboats to transport people and goods through Amsterdam, the Netherlands. The boats could also be linked together to form floating platforms or used to monitor air and water quality.

The project team is using lessons learned from self-driving cars, though the boats will face additional complications. "Our sensors need to look not only at the surface but also what is happening under the water," Carlo Ratti of MIT told CNN. "The algorithms and artificial intelligence are different, but the principles and overall architecture are quite similar."

Because of the technology's newness, the project schedule calls for extensive testing.

"We need to have enough learning," Mr. Ratti told CNN. "Just like with self-driving cars, we want to accumulate many miles to make sure the system is safe and to test it for an extensive period of time."

Rolls-Royce, meanwhile, has plans for remote-controlled cargo ships. The first ship is planned to launch by 2020. —Karina Corona

For the Morningstar project team, the biggest concern was more ephemeral: making sure the structure didn't lose its soul. "With a lot of church projects, developers aren't sensitive to maintaining the historic details, especially the windows," says Casey Klein, managing partner at Morningstar Community Development, Washington, D.C. "We're keeping the stained glass windows in each unit and replacing just a few panes with vision glass to give the residents the best of both worlds."

Benefiting the Neighborhood

For many neighborhood stakeholders, the best of both worlds means more than simply maintaining the look of these structures—it's about making sure conversion projects are enriching the community. In Baltimore, a US\$8 million project is underway to convert a former Catholic church into a health center for low-income residents of the neighborhood. In Chicago, Illinois, Stas Development is turning St. Boniface Catholic Church into 15 residential condos. It partnered with the Chicago Academy of Music to reserve a handful of those units at affordable prices for students or guests of the academy.

Project leader Mike Skoulsky says local stake-

holders are emotionally invested in the project. When soliciting input, the project team heard stories of church involvement that stretched for decades. "One neighbor told us he was born next to this church, baptized there, served as an altar boy there, was married there," says Mr. Skoulsky, president, Stas Development, Chicago, Illinois. "We asked what his ideal situation was for saving the church, and he said if he ever won the lottery, his dream would be to have an apartment in that building."

Despite the neighborhood support, the Stas project has encountered more than its fair share of challenges. The structure of St. Boniface is sound brick, but the interior was built with plaster and wood, much of which is coming apart or has rotted. That meant the project plans needed to include a complete gut. It's a costly and common problem, and one that developers and project managers should anticipate. Mr. Ferrandi recalls a recent church property in Baltimore that was in such bad shape, the seller spent over US\$200,000 just to stabilize it before the auction. It wasn't enough: Ten minutes before the auction, with a dozen people gathered for the sale, the floor in the fover collapsed. "These are not easy, inexpensive projects."

-Kate Rockwood



"Today, people drive to the church where they feel most comfortable, which may not be the neighborhood church, leaving lots of struggling, near-empty city churches."

—Stephen Ferrandi, PraiseBuildings Religious Property Brokerage, Baltimore, Maryland, USA



The PASSME project aims to cut

minutes from the average passenger journey. A lot can go wrong on flights: lost luggage, delays on the tarmac, missed connections and canceled flights, for starters. But these headaches could diminish as project teams leverage reams of data to improve every aspect of the travel process.

Around the globe, airports and airlines are sponsoring big data projects to alleviate airport congestion and make air travel more efficient. As airports struggle to accommodate a growing number of passengers while operating at near maximum capacity, innovative use of data could deliver big benefits.

John F. Kennedy International Airport in New York, New York, USA is implementing integrated planning software that uses big data and forecasting models to track visitor flow and flight operations so the airport can better predict traffic patterns and adapt staffing levels in response. Before, the team had been using one giant spreadsheet. Similar projects are already underway in other cities. London, England's Heathrow Airport is using big data to better predict whether passengers will make their connections to avoid flight delays. And airports in Sydney, Australia and Copenhagen, Denmark are using sensors and big data to reduce choke points by anticipating foot traffic flows.

"One of the biggest challenges on these projects is figuring out what data you need to achieve these goals," says Jun Chen, PhD, senior lecturer at the School of Engineering, University of Lincoln, Lincoln, England. He's the project lead for a three-year, £1 million airport big data project in Lincolnshire, England. Locating data is just the first challenge. Next comes building reliable systems to model factors such as aircraft movement and fuel consumption, which teams can then use to coordinate and optimize air traffic and flight paths.

Dr. Chen's project team is using algorithms (some relying on machine learning) to calculate optimal airport ground traffic. The goal is to shorten the time to takeoff and reduce fuel consumption. His team began by meeting with stakeholders from airlines, airports, aircraft engine manufacturers and universities to share their project model and discuss terms for accessing the data. Once they saw the value in what Dr. Chen's team wanted to do, they were excited to share the data, he says. His team is now running simulations to validate the reliability of various proposed models against the data and to test travel models to see where efficiencies can be gained to improve ground movement. "Improving the efficiency of surface movement plays a key



Opening the Silos

Creating these efficiencies isn't far off. All the data currently exists—it's just a matter of finding and using what's important, says Sicco Santema, director of the management consulting firm Scenter and professor of marketing and supply management at Delft University of Technology, Delft, the Netherlands. "All of the information is there, it's just hidden in silos."

role in increasing overall airport

capacity," Dr. Chen says.

Mr. Santema and his team are trying to crack open those silos through PASSME, a three-year project funded by the European Union (EU)'s Horizon 2020 innovation program. The project, which started in 2015 and involves a dozen public and private organizations, aims to cut 60 minutes from the average passenger journey, from their home to their destination, made within the EU. Project objectives include providing door-to-door luggage handling by sending luggage from a person's home to their destination via a parcel service provider and building a personalized travel app with features such as routes to the gate and more advanced passenger tracking.

All of this is possible if the project teams are able to integrate multiple real-time data streams in and around the passenger's whole journey in order to make it seamless and increase the experience, Mr. Santema says. "Effective use of big data is an enormous part of this program."

But getting access to and leveraging data is just one of many challenges project teams will have to face. They will also need to juggle privacy issues and get a whole network of airports and airlines on board to show results at scale.

But as industry stakeholders start to see the impact these projects can have on time and cost, they're getting more excited about the possibilities, Dr. Chen says. "As we get more sophisticated in our use of data to understand the dynamics of air travel, we will be able to achieve previously impossible efficiencies." - Sarah Fister Gale

"As we get more sophisticated in our use of data to understand the dynamics of air travel. we will be able to achieve previously impossible efficiencies."

-Jun Chen, PhD, School of Engineering, University of Lincoln, Lincoln, England

Crystal Ball

There's no question: Big changes lie ahead in the realm of digital projects. Just what kind is tricky to predict—but it's still fun to try. Here are four predictions for how digital change will shape the near future.



100 million consumers will shop in augmented reality (AR) by 2020.

One in five global brands will offer AR options to shoppers by 2018. Different from virtual reality, which is a full

immersion experience, AR will let consumers try out virtual products in the real world. 20% of brands will no longer offer mobile apps

> by 2019. As mobile apps fall short of expected ROI, many brands may abandon them completely.



Every US\$1 invested in innovation will require an additional US\$7 in execution through 2019.

As more innovative ideas are generated, more money will be necessary to deploy them. But many project plans don't include the full cost of execution.



The Internet of Things (IoT) will save consumers and businesses US\$1 trillion annually by 2022.

Example: Sensors will allow a trucking company to replace individual vehicle parts when they begin to wear out, not when the manufacturer recommends that they be replaced. Expect plenty of IoT implementation projects on the horizon.

Sources: Top Strategic Predictions for 2017 and Beyond: Surviving the Storm-Winds of Digital Disruption, Gartner, 2016; The Global State of Enterprise Mobility: 2016, Enterprise Mobility Exchange

theEdge



Troubled Waters

Building the world's longest sea bridge is no easy feat. Construction delays may cause the Hong Kong-Zhuhai-Macao Bridge to miss its scheduled December 2017 completion date.

Construction for the 50-kilometer (31-mile) HK\$132.9 billion project—the scope of which includes a tunnel, link roads and two artificial islands—began in 2009 with an end date slated for 2016. Design and technical challenges, as well as a labor shortage, have pushed the date back to 2017. But with new delays in land reclamation efforts and a rising budget due to labor and construction cost increases, the government and drivers alike will have to be patient.



Crash and Learn

Venezuela, once seen as Latin America's economic superstar, is a country in crisis. Collapsing global oil prices have taken their toll: The economy contracted 10 percent in 2016 as inflation skyrocketed over 475 percent, according to the International Monetary Fund. A 1,660 percent increase in inflation is projected this year.

Yet despite the grim and volatile outlook, there's still project action. Some organizations are com-



"In an adverse context, project managers can ensure that projects are aligned with the strategic vision of the organization."

—Jeans Delgado, PMP, Digitel, Caracas, Venezuela mitting to major state-sponsored projects. In September, Schlumberger, which months earlier abandoned several drilling projects in Venezuela and has written off at least US\$500 million of assets in the country since 2014, took on a contract from Petróleos de Venezuela SA to drill 80 oil wells in the Orinoco Belt. It's part of a US\$3.2 billion effort billed as one of the world's largest drilling projects. Canadian

firm Gold Reserve has made a 27-year, US\$2 billion agreement with the state-owned Petróleos de Venezuela SA to tap mining resources in the same region. And real estate investments are on the rise as local companies look for safe places to stash cash in the face of rapid inflation.

Of course, there are formidable execution challenges stemming from political and economic uncertainty. Organizations can find themselves grappling with unpredictable payment schedules, supply shortages and staff retention. "Many companies are dealing with



Reversal of Fortune

With prices low, Venezuela's heavy dependence on oil has become a painful liability.

95% of the country's export revenues come from oil.

US\$35.15

Average price of Venezuela's mix of heavy and medium crude oil in 2016

US\$88.42 Average price in 2014

US\$103.42 Average price in 2012

Source: Bloomberg

whole teams quitting and leaving for other countries," says Miguel Eduardo Alastre, PMP, a freelance project manager who works on technology, healthcare and consumer goods projects in Valencia, Venezuela.

Project leaders hoping to increase retention might want to start with boosting wages, says Jeans Delgado, PMP, strategic projects leader for telecommunications company Digitel, Caracas, Venezuela. Employee pay has not kept up with the rapidly rising inflation, making it difficult to incentivize project managers, he says.

To reduce risks associated with operating in Venezuela, Mr. Delgado says many telecommunications organizations are focusing on smaller-scale projects and funding them three months at a time, he says. With the business environment rapidly changing, project managers can leave their mark.

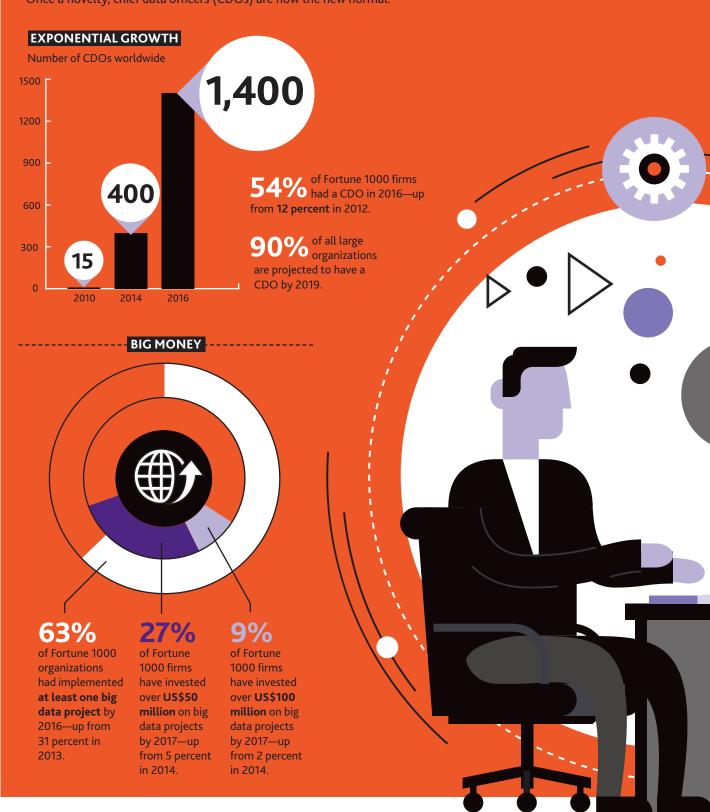
"In an adverse context, project managers can ensure that projects are aligned with the strategic vision of the organization," he says.

-Ambreen Ali

METRICS

Leading the Data Charge

Once a novelty, chief data officers (CDOs) are now the new normal.





of organizations have partially or fully implemented an Office of the CDO (OCDO).

DATA'S HEADQUARTERS

of organizations are planning or preparing to open an OCDO by the end of 2017.

OCDO's main business objectives:

62% Customer intimacy

60% Competitive advantage



54% Efficiency

OCDO's organization-wide responsibilities:

69% Oversight of analytics initiatives

Data governance

LEADING CHANGE

of CDOs act as change agents for enterprise data and analytics capabilities.

61% of CDOs lead the integration of data and analytics into business strategy.

30% of CDOs report directly to the CEO.

15% of CDOs will move to the CEO or another C-level position by 2020.

PLAYING NICE -----



62% of CDOs see the CIO as an ally or partner.

16% of CDOs report to the CIO. Potential challenges for CDOs working with CIOs:

- Unbalanced power structure
- Project funding or staffing disputes
- Lack of decision-making involvement

GOVERNMENT IMPACT



of U.S. federal agencies with CDOs say these officers are making a positive impact.



of U.S. federal agencies without CDOs say they would like to have one.

Sources: Survey Analysis: The Career Path to the Chief Data Officer Role, Gartner, 2016; The Gartner Chief Data Officer Survey, Gartner, 2016; Calling the Plays: The Evolving Role of the CDO and Federal Big Data, MeriTalk, 2016; Big Data Executive Survey, NewVantage Partners, 2016



INSIDE TRACK

The Power to Adapt

Cyril Perrotey,
PMP, project
director and
executive director,
EDS USA LLC,
Criel-sur-Mer, France

merging markets are full of opportunities—if organizations can mitigate all the risks. For EDS USA LLC, the biggest challenge to developing renewable energy projects in West Africa is managing stakeholders who span myriad cultures and customs. That's why in 2014, the U.S. company hired Cyril Perrotey, PMP, to oversee the organization's project management office (PMO) and its €120 million portfolio.

"EDS understood it needed someone who knows how to manage stakeholders and knows project management methods and tools," he says.

His nearly two decades of project management experience in Africa, Asia and Europe honed skills that Mr. Perrotey now uses as EDS USA's project director and executive director. While leading projects in countries like Cameroon, Ghana and Senegal, he's also tasked with developing processes that meet requirements and performance standards of the World Bank's International Finance Corporation (IFC).

What do the IFC performance standards involve?

The regulations in Senegal are not at all the same as those in Cameroon or Ghana. So for international organizations that want to work in emerging countries, the World Bank has implemented performance standards for labor conditions, health and safety, and the conservation of natural resources. Another very important standard involves land

Our main challenge is managing the local stakeholders—addressing the cultural gaps and compromising with them.

acquisition. We have to be sure the people who own the land, like crop farmers, are compensated for it and are involved in project decisions.

What types of projects do you and your teams oversee?

We have two types. One is off-grid projects, which are mainly rural. These small projects, usually around 10 kilowatts with budgets of about €50,000, bring electricity and telecommunications centers to villages. The other is on-grid projects. These are big projects of about 20 to 30 megawatts with budgets of more than €25 million. With these projects, private partners like us invest in power plants, build them, and then operate them and sell the energy to the African governments at very good prices. These projects have a long development phase of about two years. Construction is about six months, followed by an operation phase of about 20 to 25 years.

Is the development phase challenging?

Yes. Our main challenge is managing the local stakeholders—addressing the cultural gaps and compromising with them. Communicating with the community members can be difficult because sometimes they can't read, so we can't just put things in writing. We have to adapt our communications and arrange face-to-face meetings with the entire community. We might have meetings with 200 people, including children, where we explain the project and answer their questions.

How has that communications challenge impacted projects?

In 2016, we completed the two-year development phase of our first 20-megawatt power-plant project in Senegal. The first thing we had to do was secure the land from the landowners. But in Africa, there aren't traditional landowners. There are tribes that use the land across many generations. And per IFC's requirements, people in Africa who use the

land have rights even if they don't own the land, and we have to compensate them fairly. So we had to notify them, meet with them and come to a compensation agreement. And we had to explain all this while seated at a table with 150 villages represented in a small town in Senegal. They have local languages, and they're quite varied.

Can you describe an instance of managing cross-cultural differences?

I remember I met a tribal chief but was not allowed to talk directly with him-even though we were sitting face to face. I was allowed to talk only to an adviser, who then explained to the chief what I was saying. I had to have an open mind and respect that it's not the same culture—because there's a risk of appearing arrogant. I had to convince this chief and his adviser that the project made sense for them and for their community. Because he agreed to work with us, the whole community is now involved in the project, and we have regular meetings with them, at least once a month, to discuss the project's status.

How do local communities' requirements affect the project scope?

That's part of our risk management plan. The scope of these projects can change often as we take into account stakeholders' specific requirements, or even as logistical challenges arise. We work with local experts who have experience in these locations, and we identify and mitigate risks based on their input. For example, bringing a certain container onto the project site can take eight hours just to travel 60 kilometers (37 miles). We've spent about a month with tribal members just to check the roads and see what work needed to be done. You can't Google that—there's no data available about the countryside's road conditions. So we had to set up a schedule contingency and be able to adapt the schedule. The main thing is being flexible. PM

Small Talk

What's the one skill every project manager should have? Being able to manage

people from different cultures and understanding that we don't all look at the world in the same way.

What's the best professional advice you ever received?

Keep an open mind. People have to be allowed to not agree with vou, even if in the end you make the decision.

What movie has special meaning for you?

Argo. It's a very good example of project management that resonates with meworking for a U.S. organization when your project is in another country.

Banishing Burnout

We asked the project management community:

What steps do you take to ensure team members aren't overwhelmed by the project workload?

ESTABLISH EXPECTATIONS

Stress builds up in project teams when there is uncertainty and unpredictability and lack of communication. To ensure team members don't get overwhelmed by the project workload, it is important to set expectations in advance of every stage. A project I was involved in required team members to interact with multiple stakeholders across multiple time zones for almost a month. This was known in advance, and team members were oriented and mentally prepared to face the inconvenience of having to do late-night or early-morning calls. The milestone was nonnegotiable, and the team realized this. Ultimately, they worked together and got the job done."

—Sudhir Swamy, PMP, senior project consultant, VentureBean, Bengaluru, India

FOLLOW THE LEADER

As a project manager, your role is to fully support the team when times are tough. That sometimes means taking on out-of-job-description activities typically performed by others so each team member can focus on their other tasks and so there's no slowdown in work progress. I have stepped out of my role on a few occasions to help the team focus on project deliverables so no member is overwhelmed. For example: taking minutes of technical meetings I didn't run and was not required to attend, driving our engineers to shops to buy hardware and even laundering their work clothes.

If it can directly impact our ability to deliver as a team, I will usually not hesitate to change my priorities as required. I expect our team to do what is necessary, within acceptable limits defined by our company policy, to achieve what we have promised. It means that I have to lead by example and go beyond my short-term priorities for the benefit of the project."

 Alexis Pilotelle, PMP, project manager, Cavotec, Christchurch, New Zealand

POSITIVE PLANNING



Project planning done right prevents team members from getting overwhelmed. In my experience, project



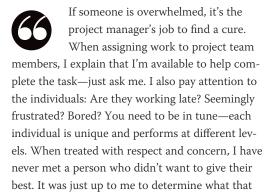
WORK IT OUT How do you

prevent burnout among project team members? Share your best advice on the PMI Project, Program and Portfolio Management LinkedIn Group.

project team without anyone feeling overwhelmed. But it also should be a priority that's identified in the risk assessment under human resources and health, safety, security and environment. Burnout should be assessed with a 'high-risk' criticality, and the measure taken to manage it should be 'avoidance."

-Rohini Kallicharan, contracts manager, Gulf Engineering Services Ltd., Port of Spain, Trinidad and Tobago

MONITOR THE PULSE



was and seek ways to improve it."

—Leonard Byrd, owner, construction consultant, K2E, Hartford, Connecticut, USA

ALL HANDS ON DECK



Collective problem-solving for workload issues is one of the best solutions.

If there's an overwhelmed team member, I like to discuss the problem with the team member and reconsider the workload for all team members. When everyone gets involved and helps the other team member not get overwhelmed, it can solve problems and build team unity."

-Ruzana Djanikulova, junior project manager, Hamon, Seoul, South Korea

SHIFT THE STRATEGY



I led a long-term software implementation project where a handful of team members were responsible

for a high volume of work due to their unique expertise. As the project wore on and technical issues occurred, it increasingly fell to these team members to work overtime to keep the project on schedule and preserve the critical path. It didn't take long for me to grow concerned about the risk of burnout.

The best thing we did to manage this risk was employ a slow-down-to-speed-up strategy. We reorganized the schedule to leverage resource strengths and reduced the administrative responsibilities of the technical team lead so he could focus on what he did best-technical problemsolving. We also agreed to a date at which we would decide if additional staff would be needed. I believe that proactively addressing this issue significantly reduced the risk of burnout, resource loss and project delays."

—Sara Gallagher, PMP, senior management consultant, The Persimmon Group, Tulsa, Oklahoma, USA

BRACE FOR CHANGE



Early and often, it's critical to communicate to team members anticipated changes in their workload. Clearly

communicating when the workload is expected to change and for how long will serve the project team well. Also, creating an environment for open communication and trust allows for project teams to share thoughts and feelings about being overwhelmed before they become an issue. This way, there is enough time to mitigate."

-Emmanuel Tackie, PMP, PgMP, manager, project management office, GE Healthcare, Toronto, Ontario, Canada

Under **Pressure**

Workplace well-being is a serious issue—a lack of it can limit productivity.

Among the world's 3.2 billion workers:



suffer from excessive pressure on the job.



are disengaged at work.

Overworked and disengaged workers can be costly for organizations.

US\$300 billion

Annual cost of work-related stress in the U.S.

US\$550 billion

Annual cost of disengagement at work in the U.S.

Source: The Future of Wellness at Work, Global Wellness Institute, 2016 Voices strategy session



Ignore What Doesn't Matter

Want to deliver standout results? Start by putting on strategic blinders.

By Andrew Robinson, PMP

he sparse prose of Ernest Hemingway, one of my favorite authors, is an object illustration of the proverb "less is more." Steve Jobs brilliantly understood the saying as well. He famously reduced Apple's product line by 70 percent, to only four products, to focus the company on what was truly important. "Deciding what not to do is as important as deciding what to do," he once said. "It's true for companies, and it's true for products."

What can we learn from these two men? For executives and project managers alike, the main lesson is about the vitality of translating complex situations into clear and inspiring paths. Many of us have been called upon to lead in chaotic circumstances. During my career I've learned that the core role of a senior executive or project manager is not to analyze a lot of numbers and delegate decision making. Rather, it's to focus on what's truly important to organizational performance: achieving strategic benefits. True leaders help others stop worrying about what doesn't really matter. They simplify the organization's field of vision by focusing on essential performance metrics and clearly communicating which actions are needed to drive that performance.

PRACTICAL PACE

Two current major trends in the corporate world also illustrate how less is more, albeit in fairly different ways.

We are witnessing a transformation in the IT project management world from waterfall to agile approaches. Why? Waterfall has a history of delivering systems that are obsolete before they are operational. Agile can provide clients with the functionality they need, more quickly and at a lower cost. The agile process is all about focusing on what users really want—and that's it. Less

Or take "innovation," another top corporate mantra. Historically, senior management developed the business strategy and implemented it top-down. The process often took years. Strategies were often complex and costly but did not provide the intended market opportunities. The decentralized innovation approach taken by many companies today, on the other hand, empowers employees to create good ideas that respond to a rapidly changing business environment. It removes the chains of corporate complexity, unlocking creativity to drive organizational agility.

I believe that the organizations, and project professionals, best positioned for success are those focused solely on helping their teams delete all distractions and do nothing but deliver strategic value focused on just a few overarching goals. PM



Andrew Robinson, PMP, is CEO of Robbins Gioia in Alexandria, Virginia, USA. He has worked in management consulting for over 25 years and can be reached at andrew.robinson@robbinsgioia.com.

Bouncing Back After Baby

How female project managers can return to the workforce after time away.

By Deepa Bhide, DCH, PMP

long queue at the grocery store one day allowed me and a young woman to strike up a conversation. It turned out we were both project managers—and the chat quickly turned serious. Although the woman had swiftly and successfully ascended the corporate ladder, she was apprehensive. She was nearing the end of a long maternity leave, and the time away from the office had rattled her confidence.

The feeling is common among mothers going back into the workforce. Here are four tips for preventing time away from feeling like a handicap.

- 1. Remain confident. You might feel out of touch with project management—women tend to suffer from a lack of professional confidence more often than men, according to Bain & Co. research. But remember that your skills are valuable, and realize that you might have improved some skills while away from work. Childbirth and rearing a child are among the hardest tasks anyone can undertake; taking care of a baby or child calls for consummate project management skills. Viewing a workforce "sabbatical" as time spent honing a skill set can boost confidence and your ability to succeed.
- 2. Prepare to adapt. It's important to expect and accept changing dynamics in the organizational and project landscape. First, acknowledge that your workplace (and any long-term projects you were working on) have likely changed—and that adapting to change is an increasingly valuable skill in the project management world. Flexible communication, time management, negotiation and risk management skills are needed to adjust to the new normal. Use your re-entry into the organization to prove you know how to quickly adapt to change.
- **3. Seek a mentor.** Sharing your concerns with other female project professionals in the organization can be helpful. Women who have been through similar experiences can provide much-



needed empathy and offer practical solutions. Be candid with your mentor about challenges you see and stresses you feel. It will help her provide valuable suggestions for deftly balancing work and family.

4. Get the right support. Successful project delivery can require intense focus. It's easy to start feeling out of balance. So be sure to get the support you need, such as flexible work hours, flexible child care hours and job shares. Don't be afraid to delegate work at home just as you would on a project at work-strong time management skills are a must-have for working moms.

The bottom line for getting back into the groove: Trust your abilities, accept change, seek help and create a reliable support structure for yourself. And remember that stakeholders at work likely won't be as demanding as a newborn child. PM



Deepa Bhide, DCH, PMP, is associate vice president of research at Cotiviti in Hyderabad, India.

Childbirth and rearing a child are among the hardest tasks anyone can undertake; taking care of a baby or child calls for consummate project management skills.

Delivering the Wow Factor

If you really want to amaze stakeholders, get them to dream big from the start.

By Amber Simonsen, PMP

our most recent project came in on time, on budget and within scope—and stakeholders were satisfied. But something still seemed missing-you have a gnawing notion that your project checked a box instead of changing the world. What else could have been done to elevate outcomes?

To go beyond delivering a by-the-book project, I use what I call the "Wow! Statement" technique. When employed during the planning process, it helps draw out the hopes, dreams and aspirations of my most important stakeholders—and provides clarity to my teams about our end state. The technique lets me go beyond core project metrics, which shouldn't necessarily dictate the outcome of your project. After all, a project can be late, over budget or deviate from the original intent and still be deemed a success. Project success ultimately depends on how much value the most important stakeholders think a project delivers. Here's how my Wow! Statement stakeholder management approach has worked for me-and can work for other project leaders.

Project success ultimately depends on how much value the most **important** stakeholders think a project delivers.

STARTING STEP BY STEP

Recently, I had the privilege of leading Alaska Airlines' first major rebranding project in 25 years. After the company determined the new brand

strategy, I set up a planning session with senior leaders from across various departments (e.g., brand experience, corporate communications, e-commerce) to plan the execution of this massive effort. I took them through the four steps of my approach:

- **1. Identify:** We identified our stakeholder groups (customers, elite loyalty program members, employees, etc.).
- 2. Prioritize: We prioritized the stakeholders, ensuring we had clarity on the most important groups.
- **3. Ask:** I asked each of our stakeholder groups a core question, and we crafted answers starting with the word "wow." In this case, our core question was, "What do we want stakeholders to say on launch day?" We wanted customers to say, "Wow! My favorite airline keeps getting better." We wanted employees say "Wow! It's fresh, modern and honors the past. I'm even more proud to work here." We repeated this process for each of our stakeholder groups.
 - 4. Revisit: Finally, we made sure we had identified our top three or four stakeholder groups and that the participants agreed we could deliver on the Wow! Statements.

There are two benefits to using this technique. First, it creates a set of short,

> memorable goals that can be used throughout

> > the project. Second, the act of creating such goals puts your team in a positive frame of mind. As author and psychologist Shawn Achor explains

in his book, The Happiness Advantage, people are more creative and produce more innovative solutions when they have a positive mindset.

MAKING DREAMS COME TRUE

Once our most important stakeholders articulated their goals, we moved into planning the project scope. This involves determining what we would need to do for the goals to come true. In my project, for the employee Wow! Statements to be true, we needed to ensure that everyone felt invested in the new brand. This led to a robust change management plan consisting of road shows at different corporate offices and large airports, a live webcast of the reveal, an intranet takeover and branding key employee workspaces.

As we got closer to the big reveal, we had to make tough decisions regarding scope. For instance, we discovered that the complexity of hiding a Boeing 737 meant we couldn't paint more than one plane in advance of the launch day. We checked our Wow! Statements and realized that as long as we had good photography for the media and had one repainted plane at the launch, we would still be able to achieve the desired impact.

All 12 major projects comprising the brand program were complete when launch day arrived in late January 2016. Glowing reports from employees, the media and our executives poured in-reports that essentially matched the statements we'd hoped they would say. We achieved success not because of good metrics, but because our most important stakeholders were wowed.

All project managers have the ability to drive teams to go beyond delivering on time, within budget and within scope. We must lead our teams to uncover the true aspirations of executives, customers or employees. Only then can we really deliver projects that wow. PM



Amber Simonsen, PMP, is a senior project manager at Alaska Airlines, Seattle, Washington, USA.

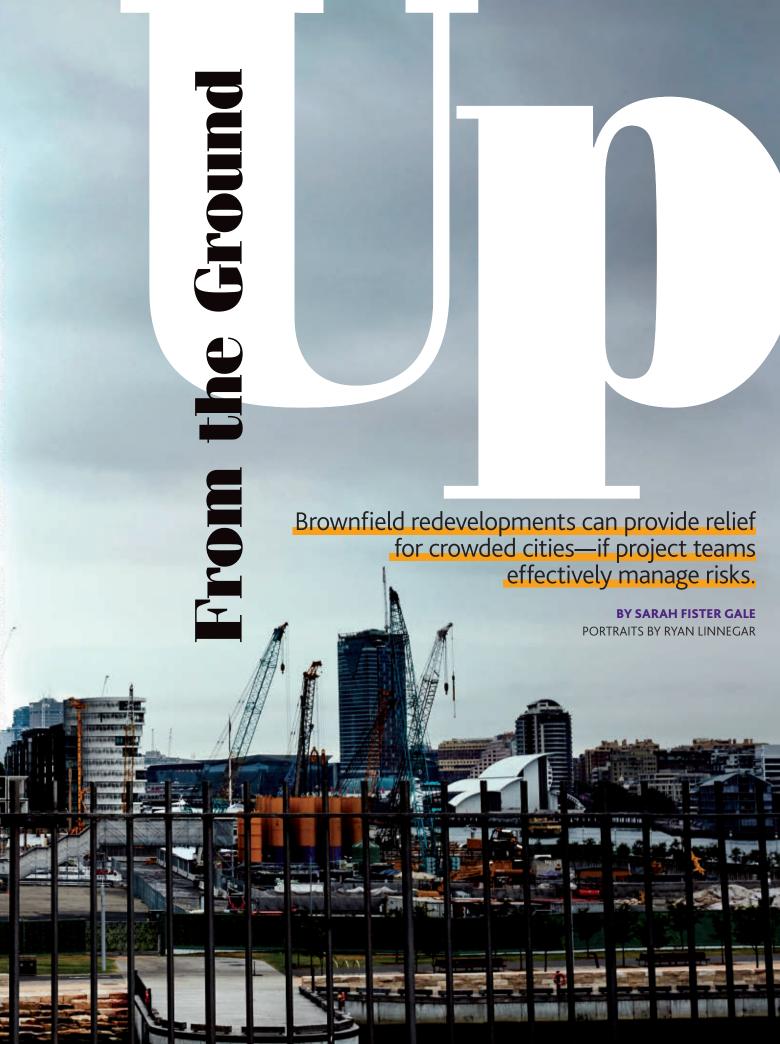
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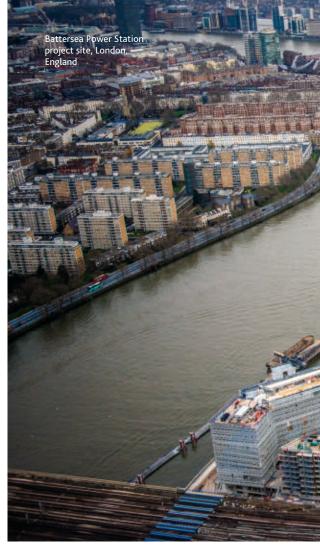
Cities are getting more crowded—and looking for new ways to make sure no space is wasted.

In 2016, more than half of the world's 7.4 billion people lived in urban areas, according to the U.S. Census Bureau. By 2030, 1 in 3 will live in cities with at least half a million people, a 2016 United Nations report says.

Developing brownfield sites offers a promising solution. By transforming unused industrial locations, ranging from former shipyards to abandoned smelting facilities, project teams can help deliver thriving new mixed-use neighborhoods with condos, retail, office space and community gardens. Breathing new life into plots with checkered pasts helps cities meet growing housing demands-without sacrificing precious green spaces.

However, these redevelopment projects often come with controversy. Brownfield sites can be tainted with toxins left by their former owners, which can make transformations a risky endeavor. If the contamination isn't well understood, skyrocketing remediation costs can explode project budgets. And if the community isn't convinced the cleanup will get the job done, protests can delay or doom development.

Keeping brownfield redevelopment projects on track requires creating a clear multi-stakeholder



communication and implementation plan from the start, says Cindy Brooks, president of the Greenfield Environmental Trust Group, an environmental remediation and redevelopment consultancy in Watertown, Massachusetts, USA.

"Brownfield sites are often stigmatized, and developers have to get local stakeholders to the table if they are going to overcome that perception and deliver a successful project."

THE MAKING OF A MAKEOVER

While brownfield sites come with a collection of risks, they also offer unique opportunities. For instance, abandoned industrial sites might already have power, water and other urban infrastructure systems in place, which cuts projects costs. Plus, planning commissions are often eager to support projects that will reduce blight and generate new

Communicating the positive benefits the project will deliver to the community can help bolster public support, says Rhian Greenrod, a development director at Barangaroo Delivery Authority in Sydney, Australia. The Authority is leading a AU\$6



billion, 22-hectare (54-acre) project to transform a former container wharf into a commercial, residential, retail and recreation destination on Sydney's waterfront. The Barangaroo site was previously home to various industrial facilities, and part of the site contains contaminants, such as coal tar and asbestos, that need to be removed.

These types of health and safety issues can create public concern, but Mr. Greenrod and his team have won over neighbors and other stakeholders by showcasing how cleanup of the site will benefit future generations. For example, Barangaroo aims to be the first urban community of its size to be "climate positive"-meaning it has no net greenhouse gas emissions associated with energy, waste and transportation.

"Our project plan includes goals to be carbon neutral, water positive, generate zero waste and enhance the well-being of the community," Mr. Greenrod says.

Ms. Brooks agrees that project teams must stay focused on the benefits brownfield projects ultimately will deliver—things like revenues, jobs, new property taxes and blight elimination. At the outset of every project, her team works with key stakeholders-such as the municipality, environmental regulators and community groups-to make sure everyone is aligned on the project's goals and final deliverables. That way, when it's time to start planning the project, her team has a clear vision of how

remediation and redevelopment construction will be coordinated and implemented, Ms. Brooks says.

"Stakeholder alignment at the outset of the project is crucial because overcoming the complexity and cost of redeveloping a brownfield site requires help from outside the sponsoring organization," she says.



"Brownfield sites are often stigmatized, and developers have to get local stakeholders to the table if they are going to

overcome that perception." —Cindy Brooks, Greenfield Environmental Trust Group.

Watertown, Massachusetts, USA

"That help might be in the form of bonds, tax abatements or public investment in infrastructure. Public officials or other advocates can be important allies to help expedite the brownfield project."

For example, she recently oversaw the redevelopment of a site in Massachusetts where the soil was heavily contaminated. The project's original goal was to put a cap on the land to protect the public from contamination. But, while protective of public health and the environment, that cap wouldn't allow the site to be reused. So Ms. Brooks and her team worked with community groups, developers and government agencies to create a new transportation hub, getting them excited about the potential benefits of redeveloping a site that had stigmatized the community for years.



"Aligned with the community, regulators and the private sector, we made the case to the state government that this [new project scope] would reduce the number of cars on the road, help the environment and catalyze job creation in a blighted community," she says.

Ultimately, rather than capping the land, they built a central rail passenger station, a bus terminal for express service to the airport, and a 2,500-car parking facility on top of the contaminated soil, which protected citizens while adding value to the site and the community.

"If you align goals upfront, beginning with the end in mind, you run a much greater chance of success," Ms. Brooks says.

Rigorous oversight and clear communication also can help mitigate these risks. Consistent documentation helps create accountability and allows project teams to manage surprises and navigate change-without turning sentiment against the project, she says.

"Good project governance provides top-to-bottom visibility of any deviations from a plan and allows for timely corrective actions to be considered and implemented."

THE GREAT UNKNOWN

Brownfield redevelopment projects often require teams to grapple with a variety of risks related to environmental remediation, regulatory requirements and varied stakeholder groups. Those groups include government agencies and an array of contractors-each responsible for a different aspect of the project.

To be ready for whatever might come their way, project managers need to expect the unexpected, says Jim Hengel, senior vice president and project director in the energy business for global engineering and construction company Black & Veatch, Overland Park, Kansas, USA.

During the construction phase of a recently completed project to build a gas-fired power plant on a brownfield site, for example, his team discovered an ash landfill that the owner had not documented. The team had to assess the impact on the project schedule and budget of excavating the landfill and

Restoring Power

An iconic former coal plant is being reimagined for the 21st century.

he Battersea Power Station is a London landmark. Resting on the banks of the River Thames, the 80-year-old, decommissioned coal plant is one of the largest brick buildings in the world.

The 42-acre (17-hectare) site in southwest London, England has been abandoned since 1983-and it's crumbling. Massive concrete towers are rotting from years of corrosive coal smoke and need to be completely rebuilt. The brick and steel structure needs significant repairs. But given the building's status as a historic world monument, it can't be demolished.

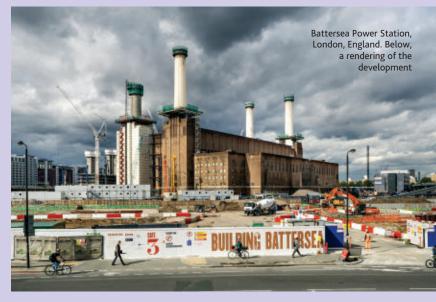
Battersea offers a promising development opportunity in an up-and-coming neighborhood. But several previous projects have failed to transform the brownfield site.

"It is an expensive beast to refurbish. Previous developers didn't have the land mass to make the project cost feasible," says Mike Grice, the Londonbased chief construction officer of Battersea Power Station Development Company. The organization, owned by a Malaysian consortium that bought the station site and adjacent land in 2012, expects its £9 billion project to be completed in 2026.

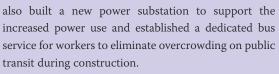
The redevelopment project will reimagine the massive power station and provide better transportation options to and from the locale. It also will add residential and retail spaces in and around the plant over eight phases of construction. By building the space out into a larger footprint, the project sponsor can use additional revenues generated to cover the cost of transforming the power station, Mr. Grice explains.

Construction of a Tube line extension and station near the site will be entirely funded by the private sector. Getting approval for this part of the project into the site plan required a lot of political lobbying in the early project design stages and was critical to the success of the project, Mr. Grice says. Easy subway access will make it easier to attract new residents to the site.

"The Tube is a game changer for Battersea. Without it, the project would not be as distinct as it is," he says. Still, the project faces significant obstacles. Mr.



Grice's team spent two years prepping the site (construction began in 2013). This included trucking contaminated soil off-site and beginning the rebuild of decaying chimneys and wash towers on the power station. The team



Project planners also had to factor in the impact neighboring construction initiatives could have on their project plan. Adjacent to the Battersea redevelopment site, which averages 3,000 workers on-site per day, teams are executing the Thames Tideway sewer project, including boring a tunnel along the length of the Thames. Both the Battersea and Tideway projects use the river to ship material off-site, so project leaders had to collaborate with each other to coordinate road use, site protection and access to utilities.

"It's all about de-risking the project on the front end," Mr. Grice says. "If you spend the time upfront to understand and address the challenges you face, you set yourself up for success."



"If you spend the time upfront to understand and address the challenges you face, you set for success.

-Mike Grice, Battersea Power Station, London, England

refilling it with clean materials—and propose a plan that pleased all parties.

Mr. Hengel's team also works closely with stakeholders to identify and mitigate safety risks. The team invites the site owner and subcontractors to join a senior site safety committee to ensure everyone is focused on the health and safety project team members. The committee lays out safety objectives, discusses improvements and works together to solve problems.

For example, on one large redevelopment project, one of the subcontractor's managers was not following site safety procedures. The safety committee brought the issue to the attention of the contractor's CEO, who replaced that manager and joined the safety committee to show his team that safety was a priority. If the team hadn't taken a collaborative approach, the issue could have become a much bigger problem, Mr. Hengel says. Instead, it was quickly addressed without creating delays, and the project ended with excellent safety statistics. "This is an example of how good stakeholder management is beneficial to everyone," he says.

FROM ALL ANGLES

Establishing strong relationships with stakeholders is key to success on these types of projects, says Chris McDonald, vice president of process operations

> at global engineering and consulting firm CH2M, Houston, Texas, USA. "Stakeholders play an integral role in our execution plan. Their input affects every aspect of the project."

> To gather that feedback, his team starts by making sure every voice is heard. It identifies all the stakeholders who will have a say in the project and brings them together for a multiday meeting to collaboratively develop a project plan, define roles and responsibilities, and identify risks.

-Rhian Greenrod

Mr. McDonald's team often develops brownfield sites that have active businesses running on them—extending commercial or industrial operations and adding new infrastructure. In these cases, this process includes the operations and maintenance teams of the current facility, who bring unique insight to the planning process.

"Too often on these projects, you do an execution plan and send it off to engineering without ever getA River Runs **Next to It**

A decade-long project is breathing new life into a U.S. city's central waterway.

prime chunk of the east bank of the Chicago River, in downtown Chicago, Illinois, USA, has long sat undeveloped, overgrown and littered with garbage. But soon all that will change. The US\$1.5 billion Riverline development project promises to transform this lucrative stretch of land-and could fundamentally change the way the city engages with the river.

The 14-acre (5.7-hectare) site is part of a 10-year master redevelopment plan that includes the phased construction of eight new buildings that will house 3,600 residences, says Tom Weeks, general manager for Lendlease Americas in Chicago. The organization is co-developing the site with CMK Companies, a Chicago residential developer. The companies broke ground on the first building in September after a year of planning, permitting and demolition work.

One of the project's biggest challenges revolves around a long-vacant railroad terminal on the project site. Clarifying regulatory authority expectations in the planning phase has helped the project team avoid surprises that could alter the plan and increase costs later on, Mr. Weeks says.

"Addressing unique site conditions, such as part of the site having historically been where the Chicago River flowed, required upfront testing and careful oversight and coordination with the City of Chicago and regulatory authorities," Mr. Weeks says. "This is where a lot of preparation and perhaps a bit of luck become important."

Bulking up the planning process makes the job more complicated, but that's part of the deal when you work on brownfield sites, says CMK CEO Colin

ting input from these people," he says. But on-site staff members have intimate knowledge of how the site works, where key equipment is located, what vendors they use and where tie-ins need to happen. "Their input can be instrumental in keeping projects on schedule and avoiding unnecessary delays."

"Our project plan includes goals to be carbon neutral, water positive, generate zero waste and enhance the well-being of the community."



Kihnke, also in Chicago. "As with any uncertainties in business, we plan the best we can so that when any issues do arise, we can address it quickly and work towards an immediate resolution."

CLEAR A PATH

While the project is far from complete, the team already has addressed one of the more complicated early issues. Initial assessments of the property showed that a large homeless population had taken up residence in parts of the abandoned lot. "This was a major challenge for the team, as we wanted to start excavation but couldn't do it safely with people on the site," Mr. Weeks says.

Rather than quickly displacing the group, Lendlease and CMK worked closely with the city to find transitional housing for the homeless population. This approach took more time and effort, but it

ensured people were safely relocated and potentially minimized any negative coverage of the project in those crucial early days.

"Arriving at a workable plan, with cooperation from city agencies, definitely helped allow a timely start to construction while addressing the safety and welfare of those affected," Mr. Weeks said.

AROUND THE BEND

Working on an abandoned site also offered interesting opportunities for development, particularly related to the river, says Mr. Weeks. In 2016, the City of Chicago laid out specific goals to improve the environment, infrastructure and economic potential of the Chicago, Calumet and Des Plaines rivers through 2040. (The three rivers pass through the metro area.) Riverline's project plan directly aligns with these goals by dedicating more than 40 percent of the land to public space, including a half-mile (0.8-kilometer) river walk and parks.

While the city didn't require this open space be part of the project, incorporating it helps ensure forward momentum, Mr. Weeks says. "It helped with our approvals. Everyone who understands our plan understands the benefits of it to the neighborhood and the city as a whole."

Mr. McDonald also encourages teams working on brownfield sites to consider risks related to the entire site—not just their piece of it. For example, logistical issues related to bringing in equipment, hauling out hazardous waste or accessing power and utility lines. "These projects have a lot of mov-

ing pieces, and they all need to work together within scope," he says.

But the biggest challenge on these projects is a late discovery of contamination on the site. "You need to be diligent," he says. "Discuss potential challenges early to align expectations." **PM**

"Arriving at a workable plan, with cooperation from city agencies, definitely helped allow a timely start to construction while addressing the safety and welfare of those affected."



Second Yesterday's industrial certain into tomorrow's neighbor of the world's largest urb

Yesterday's industrial centers are being transformed into tomorrow's neighborhoods. Here's a look at some of the world's largest urban renewal projects.



HUDSON YARDS

Location: New York, New York, USA Budget: US\$25 billion Scheduled completion:

2025

The largest private real estate development project in U.S. history, Hudson Yards aims to transform a former industrial lot into an urban mecca. When completed, the multi-skyscraper project will deliver more than 18 million square feet (1.7 million square meters) of commercial and residential space, and 14 acres (5.7 hectares) of green space. All of this will exist on top of a functioning rail yard.

ZIBI

Location: Ottawa and Gatineau, Ontario,

Canada

Budget: CA\$1.2 billion

Scheduled completion: 2030

The project will redevelop 37 acres (15 hectares) of former industrial land on the Chaudière and Albert islands and produce 3 million square feet (278,700 square meters) of commercial and retail properties, condominiums, a hotel, waterfront parks and green spaces. The sustainable design features a district-wide energy system to provide zero-carbon energy production by 2020 and gray water applications for irrigation and toilet flushing.



KAITAK

Location: Hong Kong Budget: US\$17 billion

Scheduled completion: 2021

The project will remake a 328-hectare (811-acre) former airport site into a residential hub that will, among other things, provide an overcrowded city with 44,500 new living spaces, a stadium, parks and gardens.



BARANGAROO

Location:

Sydney, Australia

Budget: AU\$6 billion

Scheduled completion: 2023

The 22-hectare (54-acre) project will transform a former container wharf into a financial, residential and retail destination, 50 percent of which will be open to the public. The



project plan incorporates 1,800 homes, public transportation and a 70-story integrated hotel resort. In 2015, the Barangaroo Delivery Authority opened Barangaroo Reserve, a 6-hectare (14.8-acre) harborside park on land that was previously a concrete wasteland. Last year three office towers opened on the site. The resort is expected to open in 2019.

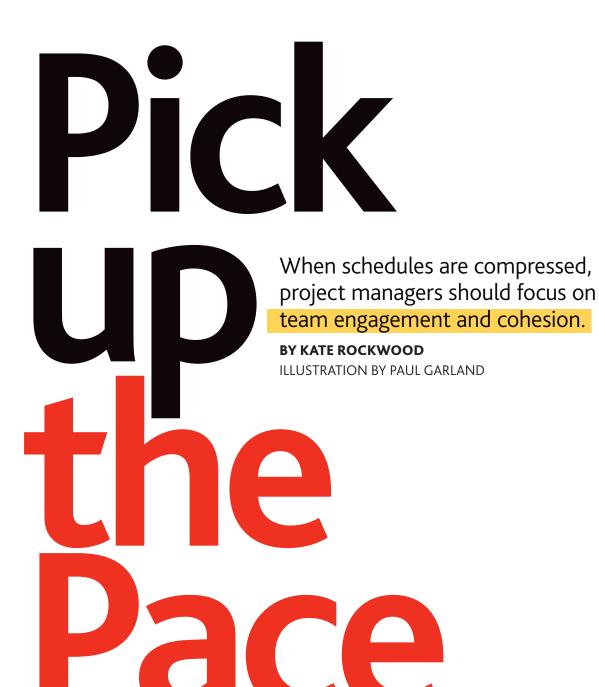
BATTERSEA

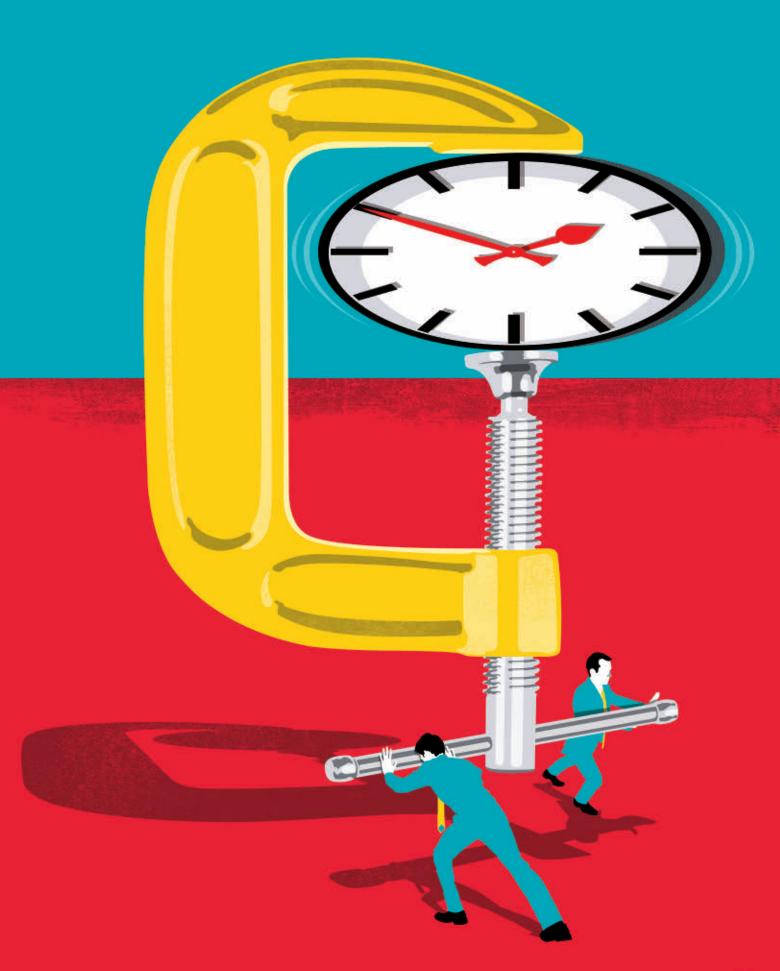
Location: London, England Budget: £9 billion Scheduled completion:

2026

The 39-acre (16-hectare) **Battersea Power Station** redevelopment project on the River Thames is the anchor of the Nine Elms development project, which covers 560 acres (227 hectares) of industrial land in the area. Once the Battersea project is completed, the site will feature 4,364 new homes, 1.9 million square feet (176,516 square meters) of office and retail space, a 6-acre (2.4-hectare) riverside park, a health facility, a library and a new Tube extension linking the site to the rest of the London.







David Barbieri, PMP, knows how to put the pedal to the metal. When he was given 12 months to complete a construction project that would normally take 24, he didn't roll up his sleeves and start compressing the schedule straightaway. With his timeline cut in half, he doubled down on building a cohesive project team.

"I got a cross-functional group in a room together and challenged them: We start now and end here. How do you do it?" recalls Mr. Barbieri, an industrial project manager for Kemira, Louisville, Kentucky, USA. "It might mean a new process or more money, but everything is possible. If people really think it's not possible, I need them off the team."

As innovation and business cycles accelerate across many sectors, organizations are scrambling to respond to shifting market demands. That can mean shorter, rapid-fire projects where time is of the essence.

Whether they're shaving three weeks off a two-month software development effort or three months off an 18-month construction phase, project managers must fine-tune their team motivation approach. The collaborative culture that might usually grow over a series of months has to be established in mere days. The project's strategic value must be immediately made clear—and used to motivate team members to stay highly engaged and productive. The frequency dial on check-ins and status meetings must be cranked to full tilt.

"With a fast-tracked project, a project manager is something of a benevolent dictator," says Mr. Barbieri. "You hear the team's concerns and conflicts, but you need them to push forward and do it anyway."

Project managers can pick up the pace—without compromising quality or creating friction with colleagues—by sidestepping these common speed bumps.



"It might mean a new process or more money, but everything

is possible. If people really think it's not possible, I need them off the team."

—David Barbieri, PMP, Kemira, Louisville, Kentucky, USA

Speed Bump: Shorter schedules create grumbling.

Accelerate: Showcase senior leader support.

roject managers rarely dictate deadlines, but team members might still blame the messenger when they're feeling crunched, says Murray Duke, PMP, project management office governance and systems, AIG Technologies, Tokyo, Japan.

A regulatory audit of a recent software infrastructure project found the organization needed to add some additional functionality to one of its products. But the traditional life cycle for that implementation wouldn't meet the audit deadline. So the project was fast-tracked out of necessity, Mr. Duke says. Before convening the team to outline

the herculean task ahead of them, he scheduled a lengthy chat with the project sponsor.

"Getting the right management buyin and support made it easier to stress to the engineers that the urgency was coming from the top and not just from an overly aggressive project manager," he says.

Spelling out the business case for the shorter launch—or the ramifications of a missed deadline—also can quell team resistance to longer days and shorter delivery cycles.

Keep in Mind: If the team is grumbling because they're already stretched thin on other projects, management buyin also can help clear some of the competing tasks holding the team back. "Become an enabler for faster delivery by freeing up the team to focus on this project," Mr. Duke says. "You might be able to negotiate with other teams to shift or delay work on other projects, for example."



"Getting the right management buy-in and support made

it easier to stress to the engineers that the urgency was coming from the top.

-Murray Duke, PMP, AIG Technologies, Tokyo, Japan





Speed Bump: Team unity is lacking.

Accelerate: Schedule bonding time (really)

o matter how tight the timeline is, avoid shortcuts that bypass building team unity. "In the heat of the moment, on a super-short project, it's easy to overlook things like introductions and icebreakers," says Ravindra Chaudhary, PMP, technical project manager, Birch Communications, Atlanta, Georgia, USA. But skipping early team building exercises can derail the project days or weeks later. If team members don't understand who's handling what, work might be duplicated and tasks could slide through the cracks. People might choose-consciously or subconsciously—to prioritize other projects, where they feel more connected to the team. Worse yet: If a crisis hits, they might not band together.

"Even on a short-term project, you have to slow down and invest in those little things that can seed team collaboration," Mr. Chaudhary says. His favorite lightning-fast game: Ask for two-minute intros from each person that include personal and professional tidbits, then

quiz team members on what they remember about each other. "If you really don't want to take away from work time, suggest going for lunch or happy hour," he says. "It helps the team start faster and work more cohesively during execution."

Keep in Mind: Virtual teams tend to take longer to bond than co-located teams. And that can spell disaster with a compressed schedule. "On a fast-tracked project, you need everyone working together as a team from day one," says Stefano Riva, PMP, a Geneva, Switzerland-based senior project manager at PMI Global Executive Council member





"Even on a short-term project, you have to slow down and invest in those little things that can seed team collaboration."

—Ravindra Chaudhary, PMP, Birch Communications, Atlanta, Georgia, USA

Thomson Reuters. To speed up virtual team cohesion, he suggests asking team members to default to video chats instead of phone calls. Similarly, picking up the phone instead of shooting off emails is more likely to forge meaningful connections—and is often more efficient, as well.



Speed Bump: Weekly check-ins won't cut it.

Accelerate: Make meetings frequent—and focused

t might seem counterintuitive to load up a shortened schedule with more frequent meetings, but waiting a week between check-ins is simply too long, says Mr. Duke. Team members might not elevate obstacles and issues swiftly, leaving them to fester until the next check-in. If that's a week later, the team might have lost all that time.

"To ensure the correct velocity on short-term projects, I always take an agile approach and implement daily morning 15-minute meetings," says Mr. Duke. But these check-ins aren't for discussing upcoming deadlines and deliverables. Instead, he sticks to three key questions: What did each person achieve yesterday? What's planned for today? What obstacles are slowing the team down?

Project managers should set clear communication expectations at the project's kickoff, such as communicating the urgency and impact of the project through daily use of team room poster pre-

sentations. At those gatherings and other meetings, it can be useful to emphasize that the shorter schedule might mean not everything is perfect—and that that's okay, Mr. Barbieri says.

"When you have a tight schedule, it will be hard to build a complete consensus, and you'll need to say 'no' to a lot of scope changes," he says. "After a few 'no's', you'll get a reputation and the suggested changes will die down."

Keep in Mind: Team members aren't the only ones who can benefit from more frequent check-ins during short-term projects. Mr. Chaudhary, who has worked on numerous rapid-fire IT projects, says all stakeholders can benefit from steady contact when project velocity is at full tilt. "Turn the communication frequency higher, so stakeholders are comfortable-and so the reaction time can be that much faster if there's an issue," he says. PM

"Turn the communication frequency higher ... so the reaction time can be that much faster if there's an issue."

-Ravindra Chaudhary, PMP

Warning Signs

When projects have a compacted schedule, spotting the subtle signals that something is amiss could prevent a missed deadline. Be on the lookout for these red flags.



DELEGATING FAILS

With a compressed schedule, team members need to feel comfortable

owning their project tasks and activities. If a team member is constantly seeking additional oversight—to the point of wanting to be micromanaged—address the situation head-on, says David Barbieri, PMP, industrial project manager, Kemira, Louisville, Kentucky, USA. "There aren't enough hours in the day for the project manager to be deep in every detail. You have to be comfortable delegating control—and the team needs to be comfortable claiming it."



DOUBTS MULTIPLY

Team members might be more reluctant to bring up deadline doubts

on a fast-tracked project. But "if the team is unwilling to explore better alternatives to the solutions or is looking up to management to provide instructions to execute, that could be a red flag that there's an issue people don't want to elevate," says Vasudeva Sharma Mallavajhala, PMP, associate director, Novartis, Hyderabad, India.



QUALITY SUFFERS 'Short, intense sprints shouldn't

mean lower-quality work," Mr. Mallavajhala says. If quality or productivity decreases steadily over time, management's intervention is needed to improve team morale, or the project team could be looking at a lot of rework—and a shattered schedule.





After an IT overhaul project crashed and burned, a U.S. state cleared the debris and pushed the reset button.

BY NOVID PARSI PORTRAITS BY NARAYAN MAHON

The reboot needed a reboot.

That's what the U.S. state of Wisconsin concluded after its first attempt to overhaul the government's antiquated and fractured IT system failed. With costs rising and financial benefits fading, the state had pulled the plug three years into the initial project in 2008.

But the need for a modern, centralized IT system remained. The state had few programmers who knew how to maintain platforms built in the 1960s and 1970s—ancient history in the IT world. Plus, the archaic systems couldn't perform even basic analytics. They struggled to track how much the state spent on basic goods, such as pens and toilet paper. And there was limited data to help the government make spending decisions, such as whether it should buy state vehicles or reimburse state employees for using their own cars.

So in 2014, Wisconsin came back with a better plan—and a new project team. The US\$138.7 million State Transforming Agency Resources (STAR) project would consolidate roughly 140 IT systems used by 58 agencies across the state into a single enterprise resource planning (ERP) system.

"We had a need for greater transparency of data and better access to data for improved decision making," says Dawn McCauley, project director and executive director, STAR program office, department of administration, State of Wisconsin, Madison, Wisconsin, USA.

Once implemented, the ERP would save state taxpayers US\$100 million over the next decade. But the new project team faced skeptical stakeholders at all levels from the start. "In the beginning, we were often asked, 'The state tried this before, so how do you know it will work this time?" Ms. McCauley says.

By studying lessons learned from the failed project and fostering a stronger culture of collaboration and engagement, the team transformed a pariah



"Early on, we had champions on our IT committee who said, 'We're going to do this as one enterprise with everyone on board.""

-John Hogan, State of Wisconsin, Madison, Wisconsin, USA





Wisconsin launches the Integrated Business Information System (IBIS) project to replace its outdated IT systems.

2008: In response to Wisconsin's dire budget situation and strain on agency resources, the state suspends IBIS.

2014: The state launches a new IT overhaul project, State Transforming Agency Resources

July 2015: The project team enhances user testing and training to ensure employee acceptance of the new system.

October 2015: The team rolls out the new system for procurement

January 2016: The system is released for human resources, benefits and payroll.

July 2016: Project is completed—18 months ahead of schedule when the department of transportation becomes the final agency to transition to the new system.

TALENT SPOTLIGHT

Dawn McCauley,

project director and executive director. STAR program office, department of administration, State of Wisconsin

Location: Madison, Wisconsin, USA

Experience: 25 years

Other notable projects:

1. University of Wisconsin Human Resources System software implementation project in Madison, Wisconsin, USA, which was completed 2011. Ms. McCauley served as development lead.

2. Installation of an enterprise resource planning system for the State of Wisconsin's department of corrections headquarters and other offices, which was completed in 2009. Ms. McCauley served as project manager.

Lesson learned:

"Having a governance structure that allows every stakeholder to participate and have a say leads to instant buy-in, cooperation and success."

project into a high-profile success. A uniform governance structure helped embed stakeholder management across key agencies. Third-party experts were brought on board to boost tech know-how and mitigate risks. And agile approaches to training and testing allowed agencies and their workers to quickly adapt to the new system.

"These old systems were going to fail, so we had to get the ERP project done," says John Hogan, project sponsor and assistant deputy secretary, department of administration, State of Wisconsin, Madison, Wisconsin, USA. "We had a lot of lessons learned from the first attempt, so the state felt comfortable undertaking the project again and getting it right."

When the final phase of STAR was completed in July 2016, the project was 18 months ahead of schedule.

TECHNICAL SUPPORT

The STAR team didn't start from scratch. Every-

"In the beginning, we were this before, so how do you

—Dawn McCauley

thing that went wrong-and right-with the original failed project guided the new project team's efforts. The first project—the State of Wisconsin Integrated Business Information System—was killed after a state audit revealed an abundance of risks, including wildly generous cost-savings estimates, a lack of legislative buy-in and deep skepticism from taxpayers.

By reviewing what went right the first time, the team was able to identify 6,600 project requirements and select the same software from the original project for the new system, Ms. McCauley says. "All the work done with the original project saved us a lot of time," she says.

By reviewing what went wrong years earlier, the team realized the state lacked adequate technical experience to go it alone. So the project team hired Accenture to do the heavy lifting on system integration during implementationand brought Gartner on board to help monitor Accenture's delivery. Accenture provided senior-level software and system implementation knowledge, while Gartner provided quarterly risk assessments throughout the project that served as a validation that the project remained on track, Ms. McCauley says. This saved the STAR team from having to develop extensive ERP knowledge for a one-off project, which improved quality and increased efficiency.

"We were able to ensure a truly collaborative effort via the contract deliverables, which included formal review and sign-off procedures as well as having the resources on-site and embedded within the teams," Ms. McCauley says.

But the team recognized that STAR had to evolve beyond a simple technology upgrade project. The new ERP system wouldn't work for the entire state government unless all agencies took an active role in its deployment.

"Early on, we had champions on our IT committee who said, 'We're going to do this as one enterprise with everyone on board," Mr. Hogan

often asked, 'The state tried know it will work this time?""

> says. "That built a camaraderie and created a mindset that we're doing this for the betterment of the state."

IN LOCKSTEP

To keep all agencies on the same page throughout the project—and to ensure buy-in—the team created a three-tiered governance structure that increased accountability and spread decision making across all agencies and all levels of leadership. For strategic decisions, the team leaned on the first-tier executive steering committee, which consisted of senior leadership from the state's 10 biggest agencies, and a second-tier council filled with agency administrators. User groups made up a third tier that would test the new system and help make decisions on how certain agencies would use the program.

"Because we had that agency representation, STAR wasn't an IT project. It was a business project," Mr. Hogan says. "That created a lot of buy-in from the leadership and from all the agencies."

The team also helped foster universal buy-in by breaking agencies of a bad habit. Rather than allowing each agency to customize the system to address unique needs, the project team required agencies to adapt their processes to fit the new system. This "forced all the agencies to get on board with common procedures and practices," Mr. Hogan says. "Before, the agencies each did things their own way. Now, we're really one company with one way of doing things."

Eliminating customizations also saved time. Not having to plan for tailored add-ons helped the team meet its goal of cutting the schedule by nearly half of the original estimate. Although a feasibility study led the team to originally set a four-year timeline, the team collaborated with Accenture to revise and accelerate the schedule to just 2.5 years-which it met. The team also saved time by conducting system releases across agencies simultaneously rather than taking a staggered approach. "Instead of having to test each release separately, we would test them

concurrently so we'd only have to do it once," Ms. McCauley says.

CHANGE OF PACE

The accelerated schedule came with a severe risk: How would the project team prepare agencies to quickly transition to the new system? The team initially implemented testing and training for users to encourage speedy adoption. But just a few months before the first release was scheduled, user survey results revealed a speed bump.

"We weren't getting the results we were expecting," Ms. McCauley says. "With the lack of comfort the users were feeling, we knew we had to do something significant."

So the team turned it up a notch. While user groups had been testing separate pieces of the system during different testing sessions, the team decided to hold single end-to-end sessions to better engage employees. "We realized our employees would be more comfortable putting all the testing together," Mr. Hogan says.

The team also bolstered user acceptance by deploying the first release over three months, rather than implementing the new ERP all at once. For example, the team had the user groups first convert static data, such as master files with vendor information, to the new system. Then it added more dynamic functionalities, such as creating contracts, purchase orders and other transactional data.

"The phased approach allowed more time for enhanced training," Ms. McCauley says.

The changes made throughout the project already are paying off. Although the state has yet to calculate actual financial benefits, it has documented myriad improvements tied to more efficient and effective procurement practices, Mr. Hogan says. "We now have access to data across the enterprise on a scale that we haven't had before, such as monitoring spending trends on a nearly daily basis. So we're able to make decisions for the state taxpayers that we could not have made if STAR hadn't been successful." PM







hen Walt Disney Co. launched the first foreign-backed theme park project in mainland China, the global entertainment power knew it had to go big or go home. The US\$5.5 billion Shanghai Disney Resort, which opened last year, delivered one of the company's fastest roller coasters ever-and the tallest and largest castle in any Disney park.

And Disney's not the only organization raising the bar for amusement parks worldwide. With global attendance and demand for new attractions at an all-time high, theme park projects must meet soaring consumer expectations—whether they deliver sprawling new parks, heart-pounding rides or IT improvements that reduce wait times.

"We have to reinvent ourselves every year as part of a master plan," says Patrick Marx, a project manager responsible for new rides and attractions at Europa-Park, Germany's largest theme park, in Rust, Germany. "We have to think many years in advance to make sure we meet the needs of all of our guests. If we don't have a new ride or attraction every year, many of our guests won't come back the following year."

But getting it right could bring a financial boon. The record 236 million people who visited the world's 25 most popular amusement parks in 2015 marked a 5.4 percent increase from the previous year, according to a 2016 report by Themed Entertainment Association and engineering firm AECOM. As parks seek to capitalize on this trend, investments in global theme park projects are also on the rise, projected to reach US\$56.4 billion in 2019-a US\$16.6 billion increase from 2014. For instance, last year, IMG Group completed the US\$1 billion IMG Worlds of Adventure in Dubai, United Arab Emirates. It's the world's largest indoor theme park, holding more than 30,000 guests per day.

Regardless of scope, projects to build theme parks or add attractions present similar challenges. Project teams must work safely around tight timelines with rigid deadlines, manage a diverse group of stakeholders and grapple with evolving technology. All the while, they must align with the sponsor's





ultimate goal: to deliver thrills that keep crowds coming back for more. That means conducting thorough market research before every project, incorporating lessons learned and moni-

toring key performance indicators, such as customer satisfaction indexes, to help ensure benefits realization, says Francesco Luna, PMP, senior project manager, Gardaland, Lake Garda, Italy.

"Our business is to entertain people," he says. "So if we deliver a project that's on budget and schedule but doesn't deliver a memorable experience to our guests, the entire project is a failure."

READY FOR LAUNCH

Even the coolest new attraction can disappoint if it's not ready to go when visitors arrive. That's particularly true for seasonal outdoor parks, where projects are usually slated for completion ahead of opening day.

"A majority of our clients have just three or

"If we don't have a new ride or attraction every year, many of our guests won't come back the following year."

—Patrick Marx, Europa-Park, Rust, Germany



Crowd

Growing attendance at theme parks worldwide drives a steady demand for projects.

> Attendance growth rate at top 25 theme parks worldwide

26.3%



236 million

Visitors to the world's top 25 theme parks in 2015

Source: Global Attractions Attendance Report, Themed Entertainment Association and AECOM, 2016

four months of the year for prime revenue time, so we have to make sure their projects open on time," says Lannie Thielen, PMP, water parks and attractions manager, WhiteWater West Industries, Vancouver, Canada. Mr. Thielen makes up for delays caused by inclement weather or late shipments by shifting project activities or having team members work overtime.

Mr. Marx's teams also have reshuffled tasks to keep projects on schedule. For instance, a two-year project to create a flight-simulation theater experience at Europa-Park by 2017 ran into problems last year during the early construction phase. A supplier in Belgium informed Mr. Marx that parts for the ride's steel structure would be two weeks late because meeting Germany's safety regulations had taken more time than the vendor had anticipated. To

keep things moving, Mr. Marx rescheduled installation of the ride's gondolas and then quickly brought in a vendor to install soundproofing material ahead of schedule.

"The primary risk is always time," he says. "If we open a new ride one or two months late, guests will stay away that much longer."

Projects at parks with year-round operations face their own set of risks. For instance, to execute an 18-month, US\$12 million renovation of a theme park inside the Sahara Centre shopping mall in Sharjah, United Arab Emirates, the project team divided the park into seven zones. Three of the zones had to stay open at all times to meet the owner's minimum required revenue, says Mones Hegazi, PMI-RMP, PMP, projects director, Bukhatir Properties International, Dubai.

To mitigate the risk of injury to the public during construction, the team installed a new roller coaster at night and during holidays. But the fact that the mall and theme park share much of the same infrastructure—such as lighting systems, climate control and even some structural beams—complicated the planning process. Mr. Hegazi's team used software to create a 3-D model of the ride to ensure work in one area didn't disrupt operations elsewhere and help determine the most efficient construction sequence.

Built for

Theme park projects are a hot ticket around the world.





Ark Encounter

Location: Williamstown, Kentucky, USA

Budget: US\$100 million Timeline: 2014-2016

Attraction: The replica of Noah's Ark, built to biblical specifications, is made of timber and weighs 2,100 tons. The construction team worked around the clock six days a week for 11 months to keep the project on schedule.



EuropaCity

Location: Paris, France Budget: US\$3.3 billion Timeline: 2019-2024

Attraction: As the largest project in Europe by a single investor, the retail and leisure development will cover more than 198 acres (80.1 hectares)—and provide competition for Europe's most popular theme park, Disneyland Paris.



Shanghai Disney Resort

Location: Shanghai, China Budget: US\$5.5 billion Timeline: 2009-2016

Attraction: Walt Disney Co.'s sixth theme park and mainland China's first foreign-backed theme park took decades of planning, including nearly 20 years of negotiations between Disney and the Chinese government.



Hurricane Harbor

Location: Oaxtepec, Mexico Budget: US\$16 million **Timeline:** 2016-2017

Attraction: Six Flags renovated a shuttered water park, creating new slides, rides and eateries across 67 acres (27.1 hectares). The U.S. company negotiated with the Mexican government for two years before purchasing the park.



Wizarding World of Harry Potter

Location: Universal City, California, USA

Budget: US\$500 million Timeline: 2011-2016

Attraction: Universal Studios' second Harry Potter theme park in the United States added a 3-D viewing experience to differentiate it from the original Harry Potter park in Florida.

Investments in global theme park projects are projected to reach

US\$56.4 billion

in 2019 a US\$16.6 billion increase from 2014.



"We didn't have any room for deviation between design and execution," he says. "3-D modeling ensured that there's no contradictions at all between elements before installation begins. We can build everything with no errors."

IN THE LOOP

Each theme park project "is like a small city with a variety of stakeholders, and sometimes their objectives conflict," Mr. Luna says. "The project manager has to sit in the middle of all of them, get all their requirements, make sure their input is taken into consideration, and then properly communicate any deviation in scope, budget or schedule."

For instance, before Mr. Luna's team built Gardaland's first dive coaster in the center of the park (dive coasters give riders the sense that they're freefalling), he created a detailed analysis of all stake-

holders and their requirements to ensure the new ride would seamlessly integrate with surrounding attractions, such as shops and restaurants.

That preconstruction engagement led his design team to suggest building a temporary platform over a small creek so park visitors could detour around the construction. But after stakeholders convinced Mr. Luna it would deliver long-term benefits, the platform was

"We ended up creating a huge plaza that allows guests to move more easily among all the attractions," Mr. Luna says. "We integrated what might have been a business risk into the project's design."

upgraded to a permanent feature.

Strong relationships with vendors and contractors can also help mitigate project risks. Theme parks occupy a niche within the construction industry, so project managers must cultivate a roster of reliable contractors and manufacturers they can go back to for each new project, says Adam Pooch, PMP, manager of project development

Mr. Pooch has seen such relationships pay off. For example, when Cedar Point began construction on the world's tallest and fastest dive coaster in September 2015, his team encountered a surprise that had to be immediately resolved to meet the May 2016 project completion deadline. The problem? The dive coaster weighed more than what Mr. Pooch's team had indicated, so the construction contractor-tasked with lifting and supporting the structure as high as 223 feet (68 meters)—requested a higher payment. Mr. Pooch didn't worry. His team's strong relationship with the contractor meant he didn't think twice about dipping into the contingency budget to negotiate a lump-sum change agreement that helped keep the project on schedule.

SMOOTH RIDE

of the Valravn roller coaster at Cedar Point amusement park, Sandusky, Ohio, USA

At Ocean Park in Hong Kong, a project team developed PFlow, a mobile app that tracks the number and location of visitors. The park uses the data to provide guests with up-to-date wait times for rides and attractions and to direct them to less crowded areas of the park, says Cyrus Wong, enterprise system architect, Ocean Park, Hong Kong, China.

Before launching the project, Mr. Wong's team

"If we deliver a project that's on budget and schedule but doesn't deliver a memorable experience to our guests, the entire project is a failure."

—Francesco Luna, PMP, Gardaland, Lake Garda, Italy







conducted extensive interviews with employees tapped to test prototypes of the platform. But employee input on new ways to leverage the app's data created the risk of scope creep, as any major changes would have to undergo additional quality assurance testing, Mr. Wong says.

"We had to control the frequency of requests to update PFlow with new features," he says. The team accomplished that by conducting change impact analyses that identified the potential consequences of any request-and helped the team determine whether changes could be pursued while staying within schedule and on budget.

For Mr. Pooch, smart contingency planning meant his team could absorb the extra cost when Cedar Point's marketing and product development teams decided-during construction-to add an augmented reality component to the new dive coaster. For instance, if guests take smartphone selfies with the ride in the background, the ride's logo, a raven, appears to land atop the ride behind them. To satisfy the development team's requirements, his team had to install park-wide Wi-Fi so guests had immediate access to the ride's interactive app.

"During the design phase, we're always aware of the fast-track project management process," he says. "We understand that deliverables are still being considered, so we're ready to accommodate changes."

Change requests happened almost daily during the first phase of Turkey's TRY4 billion Land of Legends Theme Park project, says Ahmet Colakoglu, business development director, Rixos Group, Antalya, Turkey. The project, which was completed last year, included a water park, hotel and retail shops. "You have to deal with changes, some major, some minor—and you have to be flexible," he says.

For instance, the project team decided to lower the planned height of a retail building because it would block visitors' view of the park's castle—a central thematic element. But the decision had immediate ripples. "The day after that decision was made, we had to manage it on the construction site," Mr. Colakoglu says.

To convince the architectural and financial teams that change was necessary, his team revisited the project goals with them to show how reducing the height would help achieve the project's primary objective of delivering a satisfying visitor experience.

"We have to stay ahead of the trends and always provide new thrills and exciting experiences," Mr. Pooch says. "Each phase is integral to delivering the best experience possible-and I couldn't do this without a strong project management team that understands the value of success." PM



"During the design phase ... we understand that deliverables are still being considered, so we're ready to accommodate changes."

—Adam Pooch, PMP, Cedar Point amusement park, Huron, Ohio, USA

PMI'S 2017 PULSE OFTHE PROFESSION®

Project success rates are (finally) on the rise—and are giving organizations room to grow.

BY NOVID PARSI

rganizations are getting back on track. A surge in project performance last year reversed years of lackluster results and helped more organizations gain a competitive edge, according to PMI's 2017 Pulse of the Profession®: Success Rates Rise: Transforming the high cost of low performance.

Organizations that invest in proven project management practices waste 28 times less money than organizations with poor project performance, according to the annual global survey of project management professionals, senior executives and project management office directors. The average waste of \$97 million for every \$1 billion invested due to poor project performance represents a 20 percent decrease—and thus improvement—compared to the 2016 Pulse report. (Figures are in U.S. dollar amounts, but represent a percentage that applies to any currency.) That's the lowest amount of money wasted in nine years of research.

But the gains don't stop there. For the first time in five years, there was an uptick in projects meeting their original goals and business intent and being completed within budget. Sixty-nine percent of projects fulfilled their original goals, and 57 percent stayed within budget, compared to 62 percent and 53 percent, respectively, the year before.

And there's another milestone in the latest Pulse. For the first time, the report adds a fourth criterion benefits realization maturity—to measure project performance. Scope, budget and schedule are the other three. Organizations that excel in all four areas have a remarkably higher project success rate (92 percent) than underperforming organizations (33 percent).





PHOTO BY LOVETHEWIND/ISTOCK

PMI'S 2017 PULSE OF THE PROFESSION®

ELEVATE SUCCESS

Project performance is moving in the right direction—and organizations are getting a boost, according to PMI's 2017 Pulse of the Profession®.

BETTER RESULTS

For the first time since 2011, more projects are meeting their original goals and business intent and being completed within budget.



69% of projects meet their original goals and business intent—up from **62** percent in the 2016 Pulse report.



57% of projects were completed within budget up from 53 percent in 2016.

Amount organizations waste due to poor project performance for every \$1 billion invested. That's a 20 percent improvement from the \$122 million wasted in 2016.

*Figures are U.S. dollar amounts, but represent a percentage that applies to any currency.

MATURITY MATTERS

Project management maturity has paved the way for stronger performance.



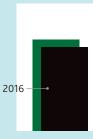
of organizations report high project management maturity.



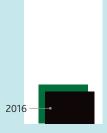
of projects have actively engaged executive sponsors—up from 59 percent in 2016.

NEW APPROACHES

More organizations are incorporating agile and prioritizing skills.



71% of organizations take agile approaches to projects sometimes or more frequently—up from **68 percent** in 2016.



32% of organizations consider technical and **leadership skills** a high priority—up 3 percent from 2016.

PMO POTENCY

More organizations are discovering the value of project management offices (PMOs).



of organizations have a PMO—up from **68 percent** in 2016 and **61 percent** in 2007.

But there's still a confidence gap between project leaders and the C-suite.



54%

of PMO directors say their organizations fully understand the value of project management.



of executive leaders say their organizations fully understand the value of project management.

38% more projects meet their original goals and business intent at organizations with an enterprise-wide PMO highly aligned with organizational strategy.

33% fewer projects fail at organizations with a highly aligned enterprise-wide PMO.

MARK OF SUCCESS

It's not just about the triple constraint. Organizations that focus on benefits realization see major payoffs.

organizations reports high benefits realization maturity.

At organizations with high benefits realization maturity (compared to organizations with low benefits realization maturity):

- - 33% more projects meet their original goals and business intent.
- 43% more projects are completed within budget.
- - 58% more projects are completed on time.
- - 34% fewer projects experience scope creep.
- 35% fewer projects fail.

MASTER PLAN

As strategic initiatives increase, benefits realization will grow more essential.

65% of organizations have high alignment of projects to strategic goals.

50% of projects are classified as strategic by executive leaders—up from 38 percent in 2016.

60% of strategic initiatives met their goals.

28% of strategic initiatives failed.

Top 3 reasons for failure:



Lack of defined objectives and milestones



Poor communication

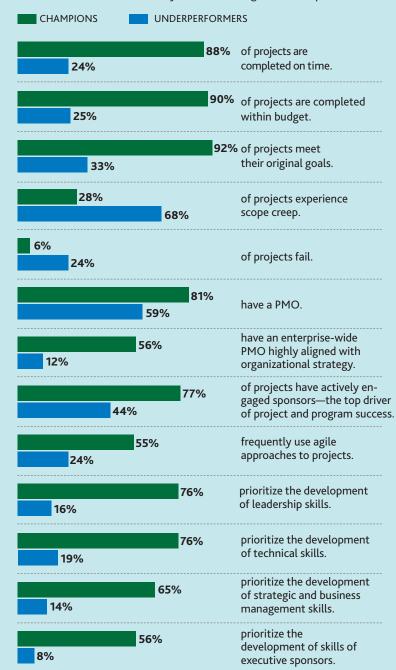


Lack of communication by senior management

REDEFINING PERFORMANCE

Champion organizations complete 80 percent or more of projects on time, on budget, meeting original goals and business intent and have high benefits realization maturity.

Underperforming organizations complete 60 percent or fewer of projects on time, on budget, meeting original goals and business intent and have low benefits realization maturity. Here's a more granular comparison:



Source: Pulse of the Profession, PMI, 2017 (Results based on global survey of 3,234 project management practitioners, 200 senior executives and 510 project management office directors in September and October 2016.)



A new president—and maturing project management practices—could help the country reinvent itself.

BY CATHERINE ELTON

eru is forging a different path forward.

As one of the world's largest mineral exporters, the South American country's economy has long been at the mercy of volatile metal prices. High values powered a historic period of growth nearly 10 years ago, but a price collapse slowed Peru to modest gains over the past three years.

To spark stronger and sustained growth, a new leader is pushing for reforms to stoke project diversity and economic stability. Although some of the country's project growth was already percolating, President Pedro Pablo Kuczynski-a former investment banker and World Bank economist who took office last year—aims to push Peru over the top by cutting government red tape and creating new funding streams.

His plan includes spurring foreign investment and encouraging publicprivate partnerships (PPP) to drive an ambitious expansion of infrastructure projects over the next five years. President Kuczynski insists that new growth can deliver more equitable benefits than what the country has seen in the past. Among other goals, he wants to launch a national project giving the entire population access to drinking water by the end of his five-year term in 2021.

"I am optimistic that new projects are going to emerge across all sectors," says Luis Llaque, PMP, PgMP, PfMP, project management office solution delivery lead, Newmont Mining, Lima, Peru. "The new administration has shown signs of possessing the political will to push projects in all sectors forward."



But a project-hungry administration can't do it alone. The country's project management culture must mature for promised benefits to be delivered, says Luis Claros, PMI-SP, PMP, PgMP, senior project consultant at PMO3 Ingenieros Consultores, Lima, Peru. Project professionals must be better prepared to manage stakeholders and mitigate risks, such as a history of government inertia that has delayed or even derailed projects.

"If projects are better planned and better controlled, in the end, more projects will be possible," Mr. Claros says.

PRESIDENTIAL AGENDA

The situation in Peru is by no means dire. The country's GDP growth rate is projected to reach 3.5 percent this year, one of the highest in a region where overall growth was negative. But growth isn't likely to even approach the all-time high of 9.1 percent set in 2008 unless Peru cultivates sectors beyond mining. For instance, double-digit growth in the construction industry ended in 2014, and private investments in the sector continue to lag.

"Many of the companies we compete with have gone out of business or are laying people off," says Mr. Claros. "When it comes to projects in recent years, everyone has suffered."

President Kuczynski says he'll help by increasing government spending and wooing foreign investors to finance the country's glaring infrastructure gap. Peru is in need of nearly US\$160 billion in infrastructure projects through 2025, according to a study by the School of Public Management at Universidad del Pacífico, for the Association for the Promotion of National Infrastructure. And the government has pledged to spend US\$3.1 billion this year on telecommunications and transportation infrastructure. Already, PPPs are helping to build new roads, including a 3,503-kilometer (2,177-mile) highway to connect villages and cities in the Andes Mountains.

The president also has focused on Peru's tourism sector—setting a goal to double the number of people who visit Peru each year to 7 million by the end of his term. The tourism sector needs new projects so the Incan ruins at iconic Machu Picchu and the nearby city of Cusco aren't the country's only main tourist attractions. To spike interest in the pre-Incan ruins of Kuelap, President Kuczynski's



predecessor agreed to fund a US\$24 million cable car system project that was completed earlier this year. The system slashes the two-hour drive to the top of the ruins to a 20-minute ride.

And in order to free up a logjam of stalled projects—and keep backups from occurring in the future—in November, the government approved a new public investment system designed to drastically reduce planning and approval time for government-sponsored projects. For instance, fewer studies and less paperwork will be required to execute regional and municipal projects.

Even before President Kuczynski assumed power, the government was starting to give Peruvian organizations—or at least Peruvian professionals—the opportunity to lead projects rather than rely on foreign contractors, says Julio Alvarez, assistant manager of engineering, Shougang Hierro Peru, Marcona, Peru. For instance, a 20-year, US\$1.4 billion mine expansion project that was launched in 2010 is in the hands of Peruvian teams that he oversees, he says. With President Kuczynski in charge, government confidence in Peruvian project leadership is expected to grow, Mr. Alvarez says.

"With a little effort and the trust of the private company and the government, we have been able to take this important step forward," he says. "It's not that complicated, really. It's just about doing things right and being well-trained."

OBSTACLE COURSE

Despite the positive project vibes coming from the government, experienced project professionals know



—Luis Claros, PMI-SP, PMP, PgMP, PMO3 Ingenieros Consultores, Lima, Peru







HOTO BY XINHU/

change won't happen overnight. For instance, a US\$1.2 billion expansion and renovation project at Jorge Chávez International Airport in Lima has been delayed for more than 10 years. Teams need to be able to adapt to deal with long waits, says Alida Anicama, PMP, a Lima-based project manager with AC Consulting SAC, which has worked on the airport project.

"The company that has the concession to the airport cannot invest because of the government's delays in expropriating the lands required for the project," she says. The government also needs to move sewage lines and finish a tunnel before construction can begin. To avoid further delays, Ms. Anicama believes it would be best to start construction of the terminal on the land that's already acquired, rather than waiting until all of the land is secured.

"As a project manager, you have to look for ways to overcome these obstacles," she says. "You have to plan for different scenarios and be able to refocus the project accordingly."

MATURITY MATTERS

For President Kuczynski's ambitious plans to become reality, public and private organizations must elevate their project management culture. But too many companies don't support project managers who are seeking professional certifications and don't understand the strategic value of establishing sound project processes, Mr. Claros says.

"The majority of companies in Peru either aren't aware of the importance of project management or, if

Peru at a Glance

Population (2015):

31.4 million

Size:

1.3 million square kilometers (502,200 square miles)

GDP (2015):

US\$189 billion

GDP growth rate (2015):

3.3%

GDP growth forecast (2017):

3.5%

Primary industries:

Mining, energy, agriculture and tourism

they are, they don't have the necessary tools in place that enable them to implement certain procedures or practices to help their project offices," he says.

Mr. Llaque says project managers often have their

"You have to plan for different scenarios and be able to refocus the project accordingly."

—Alida Anicama, PMP, AC Consulting SAC, Lima, Peru

"If we are just starting out in project management, program and portfolio management are basically sciences."

-Luis Llaque, PMP, PgMP, PfMP, Newmont Mining, Lima, Peru hands tied when trying to implement sound practices, because organizations in Peru generally lack a long-term vision. "If we are just starting out in project management, program and portfolio management are basically occult sciences to them," he says.

Skills that project managers and organizations need to emphasize most are risk management, stakeholder relations and communications, says Ronal Calderon, PMP, deputy manager, infrastructure projects, DPWorld, Callao, Peru. "We need project managers who know how to map the stakeholders and their needs and ensure that these are reflected in the technical documents before they are budgeted," he says. "Sometimes these are deficient, and it affects costs and time frames."

At a minimum, managing relationships with community members also can help avoid the types of protests that have paralyzed or even killed mining projects in Peru, he says. But in Lima and other

areas on the coast, project managers must contend with another stakeholder risk: gangs that threaten violence during construction projects. Dealing with these groups is an essential aspect of planning, Mr. Calderon says. Teams must identify such groups and arrange meetings with them before construction begins. In a worst-case scenario, gangs attempt to extort money from project sponsors. But organizations are taking steps to ensure such tactics aren't rewarded—and to build a culture of hope in affected communities, Mr. Calderon says.

"This is not anything that appears in A Guide to the Project Management Body of Knowledge (PMBOK® Guide). But serious companies and project teams are implementing corporate social responsibility policies in the places they operate. By working closely with local people, they are trying to solve their main problem-poverty-and create more opportunities through projects." PM

Standout Skills We asked project professionals: What skill is needed for project managers to stand out in Peru today?



"Stakeholder management. If vou're working on a building in an urban area and don't work to raise neighbors' awareness, they could stop the project by protesting against the noise and traffic congestion in front of the

work site and calling the media to cover it."

—Alida Anicama, PMP, project manager, AC Consulting SAC, Lima, Peru



"In Peru, many project managers have excellent technical skills, but they must develop leadership skills. They need to develop people skills and take on specialized courses that help boost their leadership."

—Julio Alvarez, assistant manager of engineering, Shougang Hierro Peru, Marcona, Peru



"Long-term vision. Even if your project lasts just three months, you need to think about how what you produce is going to function for the next five years. That enables you to justify your project, make it

more visible and ensure its sustainability."

—Luis Llaque, PMP, PgMP, PfMP, project management office solution delivery lead, Newmont Mining, Lima, Peru



"The ability to identify and map the stakeholders and risks associated with the project, and proper training in negotiation and conflict resolution."

-Ronal Calderon, PMP, deputy project manager, infrastructure projects, DPWorld, Callao, Peru

Fast Forward Four projects showcase Peru's promising future

TALARA REFINERY MODERNIZATION

Budget: US\$3.5 billion Targeted close: 2019 The public-private partnership (PPP) between state-owned Petroperú and Spanish contractor Técnicas Reunidas launched in 2015 and will enable the refinery to produce cleaner diesel, gasoline and liquefied petroleum gas. The target benefits: improved air quality and public health—and a nearly 50 percent increase in the refinery's daily output.





LINE 2 OF LIMA METRO Budget: US\$5.8 billion Targeted close: 2021

Part of the country's largest-ever infrastructure program, the second line of the capital city's oft-delayed urban rail system will be 35 kilometers (21.7 miles) of subway tunnels linking 35 stations. Daily capacity is slated to be 660,000 people.

ALTO PIURA HYDRO

Budget: US\$115 million Targeted close: 2021 Northern Peru's coastal Piura region is parched—and this 13-kilometer (8.1-mile) tunnel cutting through the Andes will bring relief. The first phase of a joint PPP construction venture between Italy's Astaldi and Peru's Obrainsa began early last year to carry water to Piuran agricultural lands. For another nearly US\$600



million, subsequent phases will deliver hydroelectric and irrigation systems.

SOUTHERN GAS PIPELINE

Budget: US\$7 billion Targeted close: 2019 Funding obstacles have delayed the project, but the government hopes to broker a deal among private contractors to complete a 1,134-kilometer (705-mile) pipeline stretching from natural gas fields in the Amazon, over the



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FEATURED BOOK

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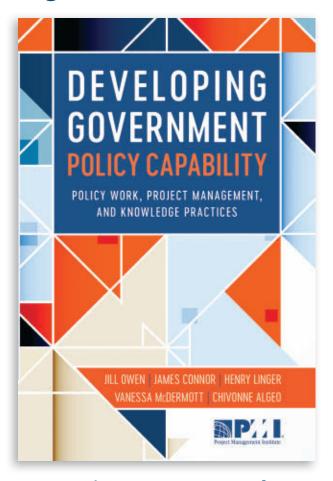
Developing Government Policy Capability: Policy Work, Project Management and **Knowledge Practices**

he creation of public and government policy presents a "wicked problem" because it tends to be highly contested, involves many different stakeholders, and yields outcomes that change and evolve over time.

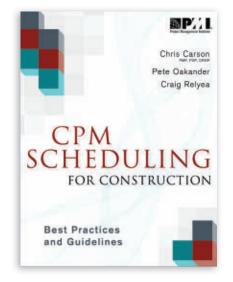
Developing Government Policy Capability examines the role project management plays in supporting the conduct of policy work. Using Australia's controversial Tobacco Plain Packaging Bill 2011 as a case study, the authors explore the question: Can project management practices contribute to improving government policy development and implementation capability? Their argument that project management can solve even "wicked problems"—is not necessarily new. As they explain, that's pretty much what project management is all about.

Project managers need to clearly articulate, acknowledge and legitimize invisible work—the bridge between what is being done and what is supposed to be done. The project management tool set and the importance of recognizing the societal dimension when planning and conducting projects can make it possible for practitioners to tackle even the most complex policy work.

Project Management Institute, 2017, ISBN: 9781628251777, paperback, 193 pages, \$19.95 member, \$24.95 List Price



Project managers need to clearly articulate, acknowledge and legitimize invisible work—the bridge between what is being done and what is supposed to be done.



Chris Carson, PMP, PSP, DRMP, Pete Oakander and Craig Relyea, editors

CPM Scheduling for Construction: Best Practices and Guidelines

This collaborative effort of SEI and the former PMI Scheduling Community of Practice provides readers with a reference guide that is like having an experienced scheduling professional at hand. The book is laid out in a way that follows the phases of building a project schedule from project planning to project definition and schedule design through development, maintenance and usage of the schedule. Information is organized into six sections, each broken up into separate categories for detailed discussion and easy reference. This is an indispensable reference manual to assist schedule technicians and project managers step-bystep in the process of developing, analyzing and maintaining a project schedule.

Project Management Institute, 2014, ISBN: 9781628250374, paperback, 301 pages, \$31.95 Member, \$39 95 List Price

Project Management Institute

Translations of the PMBOK® **Guide**—Fifth Edition



A Guide to the Project Management Body of Knowledge (PMBOK® Guide)—Fifth Edition reflects the collaboration and knowledge of working project managers and provides the fundamentals of project management as they apply to a wide range of projects. This internationally recognized standard gives project managers the essential tools to practice project management and deliver organizational results. Translations are available in 10 languages: Arabic, Chinese (Simplified), French, German, Italian, Japanese, Korean, Portuguese, Russian and Spanish.

Project Management Institute, 2014, \$49.50 Member, \$65.95 List Price

Tony Llewellyn

Performance Coaching for Complex Projects: Influencing Behaviour and Enabling Change



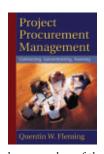
Managing complexity requires greater use of influence and less reliance on coercion. This book shows how to do it.

The author first looks at the challenges of complexity and makes the case for a shift from a transactional directive mindset to a transformational coaching philosophy. He then introduces a model of project team coaching, including the processes and methodologies that have been shown to be effective in improving team performance. Complex projects are invariably messy, not least because of the human factors associated with them. This text is essential reading for anyone responsible for managing in uncertain, challenging and changing environments.

Routledge, 2015, ISBN: 9781472461803, hardcover, 182 pages, \$71.20 Member, \$74.95 List Price

Quentin W. Fleming

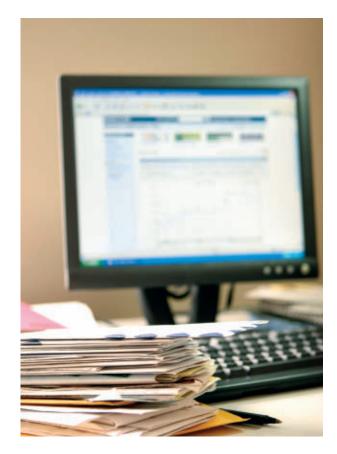
Project Procurement Management: Contracting, Subcontracting, Teaming



The "one best book" on project procurement management may be difficult to identify, but this new book should be a prime candidate. Written

by a member of the team that produced the procurement management chapter of the PMBOK® Guide—Fourth Edition, it closely parallels PMI standards and provides practical advice for planning, defining, soliciting, authorizing and managing the external relationships that obtain project scope from outside the project team. Simple truths illuminate an often-complex subject in ways that show readers the best practices for project procurement success. Bypassing the arcane details of contract law, this practical book shows readers the path to success in this critical part of any project.

Project Management Institute, 2003, ISBN: 9781628251739, hardcover, 276 pages, \$31.95 Member, \$39.95 List Price



On the Record

Help yourself defend decisions: Don't skip documentation. By Robert Barger, PMP

> f asked about a decision we made two hours ago, most of us could quickly recall the factors that led us to it. When asked about a decision we made two years ago, few of us would be able to do the same. That's why documentation is vital for project managers.

I've seen project managers lose career momentum because they were unable to justify decisions they had made on a past project. This career fallout didn't necessarily happen because the project managers made poor decisions. It happened because they were merely unable to fully articulate their rationale and detail the information they had at their disposal at that time.

Questions about previously made decisions can arise at any time in the life cycle of a project. Often, these questions are prompted by new information that raises doubts about your previous decisions. It is important to understand that your decisions only seem justified if the factors used in making those decisions remain in place. Once one of those factors changes, the organization's views on your decision can change as well.

ANSWERS ON DEMAND

Documentation is the key to accurately remembering and defending your decisions when you are challenged. By recording what resource provided what information and when, you can quickly provide a summary of events to senior management.

This documentation could be in the form of emails or meeting agendas, but I like to use a journaling process that is searchable by keyword so I can quickly scan for specific subjects. I find journaling valuable because it gives me a quick succession of bullets that succinctly provides the facts about who and what led to my decision, and why I made it when I did.

It may feel like you are using this information to point the finger at another employee or pass the buck, but in reality, you are simply using factual information to shed light on a decision and provide context to the discussion. This information can be useful in building a root cause analysis, or in reviewing policies, systems or an employee's skills (or skills gaps).

When a senior manager asks why you made a certain judgment call and you can provide thorough details, the uncomfortable scrutiny quickly dissipates. And there's another benefit: You gain a reputation as an organized employee who retains important information and quickly provides answers. PM



Robert Barger, PMP, is a program manager and principal consultant at HMB Information System Developers, Columbus, Ohio, USA.

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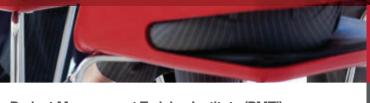
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