



800 Corporate Pointe, Suite 350
Culver City, CA 90230
310.741.4880
xprize.org



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2015 PRIZE BOOK

MAKING THE IMPOSSIBLE POSSIBLE





CONTACT INFORMATION:

Peter H. Diamandis, M.D.

Chairman & CEO

T 310-741-4961

peter@xprize.org

Robert K. Weiss

Vice Chairman & President

T 310-741-4922

rkweiss@xprize.org

Paul Rappaport

Chief Operating Officer

T 310-741-1441

paul@xprize.org

Eileen Bartholomew

Senior Vice President, Prizes

T 310-741-4894

eileen@xprize.org

Trish Halamandaris

Senior Vice President, Marketing

T 310-741-4925

trish@xprize.org

xprize.org





ABOUT THIS BOOK

It's essential that every XPRIZE we design, launch and award yield both extraordinary results and redefine how the world thinks about a problem and its possible solution.

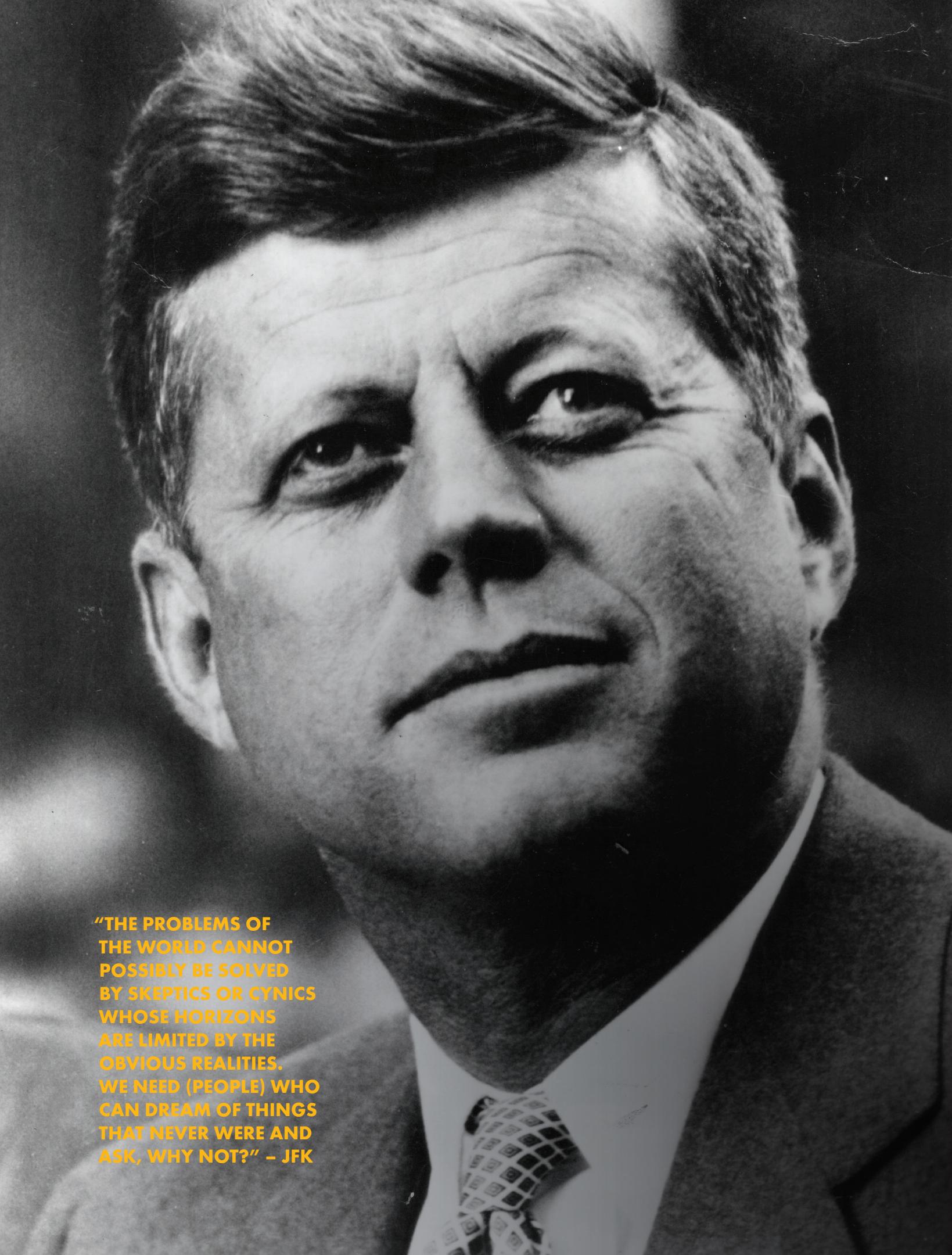
In these pages we share with you our history and beliefs about the world. We honor our past XPRIZE competitions and team achievements. We showcase our active XPRIZE competitions and highlight many concepts we believe have the possibility to become the great XPRIZE competitions of tomorrow.

These future XPRIZE competitions hold the potential to become great incentive competitions that drive innovation,

create sustaining industries and result in radical breakthroughs for humanity. But achieving this will only be possible with your help.

As you read through this book, we hope these prize concepts will inspire your support. We are actively seeking additional sponsors and donors to support the capitalization of future XPRIZE competitions.

The prospects of our organization have never been brighter. We look forward to continuing to create the future with you and making the impossible possible.



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**"THE PROBLEMS OF
THE WORLD CANNOT
POSSIBLY BE SOLVED
BY SKEPTICS OR CYNICS
WHOSE HORIZONS
ARE LIMITED BY THE
OBVIOUS REALITIES.
WE NEED (PEOPLE) WHO
CAN DREAM OF THINGS
THAT NEVER WERE AND
ASK, WHY NOT?" – JFK**

WHO WE ARE

**XPRIZE IS AN INNOVATION ENGINE.
A FACILITATOR OF EXPONENTIAL CHANGE.
A CATALYST FOR THE BENEFIT OF HUMANITY.**

We believe in the power of competition. That it's part of our DNA. Of humanity itself. That tapping into that indomitable spirit of competition brings about breakthroughs and solutions that once seemed unimaginable. Impossible.

We believe that you get what you incentivize. And that without a target, you will miss it every time. Rather than throw money at a problem, we incentivize the solution and challenge the world to solve it.

We believe that challenges must be audacious, but achievable, tied to measurable goals. And understandable by all.

We believe that solutions can come from anyone, anywhere and that some of the greatest minds of our time remain untapped, ready to be engaged by a world that is in desperate need of help. Solutions. Change. And radical breakthroughs for the benefit of humanity.

WE MAKE THE IMPOSSIBLE POSSIBLE.



WHAT WE DO

XPRIZE CREATES RADICAL BREAKTHROUGHS FOR THE BENEFIT OF HUMANITY.

We provide the thought leadership and expertise to define the space, shape the discussion and turn ideas into audacious, achievable action on a grand scale.

We start by identifying the Grand Challenges of our time – the national or global crises, market failures and opportunities where solutions are thought to be either out of reach or just, plain impossible. And then we design and operate incentivized prize competitions to solve them.

We call this process, Visioneering.

We act as a convening platform, bringing together passionate partners to accelerate a positive future based upon our vision of a preferred state. The sponsors, entrepreneurs, philanthropists, industry, government, academia and innovators who help us make the impossible possible.

We ignore conventional wisdom and all the reasons "why not." And we don't take no for an answer.

We are a friend to industry and seek to partner wherever possible to ensure a smooth path to adoption of new technologies resulting from our competitions. But, our primary allegiance is to the innovators and their radical breakthroughs for the benefit of humanity. Through our design process, we create competitions that incentivize and empower them. They are the real heroes who turn science fiction into science fact. So, if industry is unwilling or obstinate, we really don't care.

We're coming through anyway because we side with the innovators and humanity.

Case in point: The Ansari XPRIZE. An initial investment of \$2.5 million enabled us to offer a \$10 million prize purse that drove teams from around the world to spend over \$100 million in R&D (10x the



prize purse), resulting in a \$2 billion private space industry. \$2 million to \$2 billion. Now, that's radical philanthropy.

And because XPRIZE competitions only reward the winners, they are models of efficiency. Back an XPRIZE and you automatically back the winner.

Bottom line. We make the impossible possible. And everybody wins: sponsors, competitors, industries and the world.

If you want to get our attention, just tell us something's impossible.

WHAT IS AN XPRIZE?

AN XPRIZE IS A HIGHLY LEVERAGED, INCENTIVIZED PRIZE COMPETITION THAT PUSHES THE LIMITS OF WHAT'S POSSIBLE — TO CHANGE THE WORLD FOR THE BETTER.

An XPRIZE captures the world's imagination and inspires others to reach for similar goals, spurring innovation and accelerating the rate of positive change. An XPRIZE must meet the following criteria:

Bold and audacious goal: An XPRIZE pushes the boundaries of human potential by focusing on problems currently believed to be unsolvable, or that have no clear path toward a solution.

Targets market failures: We target a range of market failures:

- (1) no capital is being spent
- (2) capital is being spent, but without the desired result
- (3) no capital is being spent because nobody knows it's a problem

(4) the problem is known, but no one can imagine that it's not already being addressed

(5) no one is trying because no one thinks a solution is possible

Defines a problem rather than a solution: An XPRIZE is, by nature, solution-agnostic, defining the challenge and incentivizing teams around the world to find the most effective solutions.

Very difficult, but achievable: While a competition must be bold and audacious, it must also be achievable, ensuring that teams believe that they can win the XPRIZE.

Winnable by a small team: An XPRIZE should be able to be won by anyone from a team of industry experts to a team of well-funded high school students who don't know what they can't do.

Reasonable time frame: An XPRIZE is designed to affect the foreseeable future, so a time frame of two to seven years is essential to allow teams enough time to succeed while ensuring momentum and that industry will not outpace the competition.

Clear, objective and simple rules: The finish line must be clearly defined, with easy-to-understand rules and goals that are measurable and understandable by all.

Telegenic and easy to convey: The winning of the competition itself is interesting and compelling, and has innate narratives that are easily conveyed to our audiences.

Leverageable: An XPRIZE provides leverage for a sponsor's investment by driving an additional investment in support of a solution. By shifting risk from sponsors to competitors, prizes attract investments of

capital and time from motivated participants. And when prizes produce vetted solutions, they can attract further investment.

Drive investment: XPRIZE competitions enable teams to attract capital, support and team members.

Create "back-end business." An XPRIZE should give birth to a new industry or transform/revitalize an existing one with long-lasting benefits.

Provide vision and hope: Above all, an XPRIZE inspires hope through our vision of a better future, where winning teams are the proof that the world's seemingly impossible problems can and will be solved. Vision + Demonstration of Breakthrough = Hope.



THE PRIZE THAT INSPIRED US

AN INNOVATION MODEL WITH A PROUD HISTORY.

What would Lucky Lindy have thought about XPRIZE? Probably, "How can I get in on the action?"

Eight decades after Charles Lindbergh made history in one of the most famous incentivized prize competitions ever, the concept is alive and well with more and more organizations adopting the model that XPRIZE reignited in 2004.

So why did Lindbergh make that historic flight across the Atlantic? Adventure? Glory? Fame? Few realize that the main reason he risked life and limb was ... cash. The prize money. Then came the adventure, glory and fame.

In 1919, hotel magnate Raymond Orteig put up a \$25,000 purse for the first person to fly nonstop between New York and Paris. On May 21, 1927, with the whole world watching, Lindbergh won the prize and became a global celebrity.

Where no government filled the need and no immediate profit could pay the bill, the Orteig Prize stimulated not one, but nine different attempts to cross the Atlantic. These nine teams cumulatively spent \$400,000 to win the \$25,000 purse, and spawned today's \$250 billion aviation industry.

By taking a smaller, faster approach to aviation, Lindbergh and the Spirit of St. Louis Organization showed that a small team could outperform large, better financed efforts. Prior to his flight, the press of the day characterized Lindbergh as a daredevil and an amateur – "the flying fool."

Well, as we always say at XPRIZE, the day before something is a breakthrough, it's a crazy idea.

Within a year of Lindbergh's historic flight, applications for U.S. pilot licenses increased by 300 percent, and licensed aircraft increased by 400 percent. And the number of U.S. airline passengers grew from approximately 6,000 in 1926 to 180,000 in 1929, or 30-fold.

Then, in 1996, XPRIZE took up the Orteig mantle and announced the \$10 million Ansari XPRIZE, challenging teams around the world to build and launch a spacecraft capable of carrying three people to 100 kilometers above Earth's surface, twice within two weeks. On October 4, 2004, the Mojave Aerospace Ventures team won the competition, launching a new era in incentivized prize competition. Numerous prizes later, XPRIZE is still making history.





"I would love to fund another XPRIZE. It was the best kind of experience a philanthropist can have to provide a relatively modest investment and to have such a measurable and valuable outcome delivered to the world."

Wendy Schmidt, Trustee, XPRIZE Foundation
President, Schmidt Family Foundation



"I joined the XPRIZE board in 2007, inspired by the way the foundation encouraged people to dream big, tap into their own fearlessness and creativity and change the world."

Arianna Huffington, Trustee, XPRIZE Foundation
President and Editor-in-Chief, Huffington Post Media Group



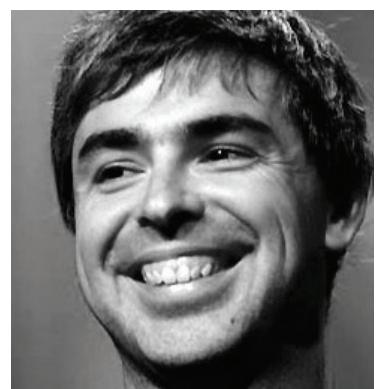
"This competition will accelerate the development of tools that can empower consumers to take charge of their own bodies and manage their own care."

Paul E. Jacobs, Executive Chairman, Qualcomm Incorporated,
Qualcomm Foundation Chair
On the launch of the Qualcomm Tricorder XPRIZE



"Prizes work. The XPRIZE Foundation can generate breakthrough results by attracting brilliant innovators across national and disciplinary boundaries to solve grand challenges."

J. Craig Venter, Ph.D., Trustee, XPRIZE Foundation
Founder, Chairman and CEO, J. Craig Venter Institute



"The XPRIZE model has huge potential to unlock innovation around the grand challenges that are important to each of us."

Larry Page, Trustee, XPRIZE Foundation
Co-Founder and CEO, Google



"The XPRIZE Foundation is accelerating the pace of innovation across sectors ranging from space exploration to alternative fuels and fostering a clean environment through its various prizes that have energized smart creative teams to come up with breakthrough solutions that have the potential to positively impact the lives of billions of people."

Ram Shriram, Founder
Sherpalo Ventures

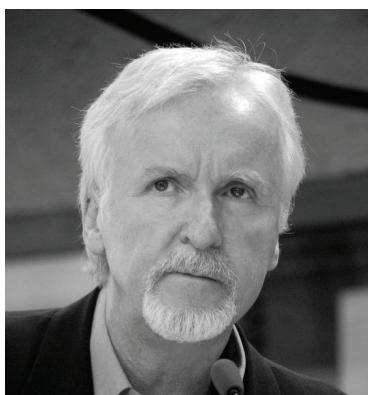
PARTNER WITH XPRIZE

OUR DONORS AND SPONSORS ARE A GROUP OF COURAGEOUS VISIONARIES WHO SUPPORT OUR MISSION AND OUR PRIZES.

Vision Circle members are our largest contributors, fueling our capacity to add prize competitions and enhance educational outreach. Vision Circle members are our core shareholders and their input is vital to our long-term focus and success.

The Innovation Board is a group of philanthropists actively engaged with Foundation Leadership on strategic topics such as defining our annual Grand Challenges and areas of focus for Trustees' Visioneering. The Innovation Board also works closely with the Foundation to identify strategic partners and opportunities.

Spirit of Innovation members are a small group of donors who provide the seed capital used to design, fund and launch XPRIZE competitions as well as support the ongoing mission of the Foundation. Becoming a Spirit of Innovation member allows you to also participate with your ideas, passion and connections.



"THE RAPID ACCELERATION OF TECHNOLOGY IS ENABLING SMALL TEAMS TO CONDUCT EXPLORATION THAT WAS ONCE ONLY POSSIBLE BY NATIONAL GOVERNMENTS. THE XPRIZE FOUNDATION HELPS TO SET AND INCENTIVIZE AUDACIOUS AND WORTHY TARGETS."

James Cameron
Trustee, XPRIZE Foundation, Filmmaker and Explorer

Prize Design donors and sponsors underwrite the ideation, design and planning of future XPRIZE competitions. With our supporters, we define the XPRIZE that can best solve the technological, market, behavioral, and policy failures that are preventing breakthroughs in a given field. We identify the competition structure that will attract global teams to the effort, but that cannot be gamed. We define the marketing and educational extensions that will bring about the greatest awareness and engagement from key stakeholders, including the general public. Lastly, we develop the metrics for assessing the impact of a prize so that we can measure how the prize has created or catalyzed industries.

Prize Operations donors and sponsors support active XPRIZE competitions. The funds are used to launch, operate and award the prize. This includes: the prize purse which is only awarded upon a team achieving a measurable, objective goal, operational costs to demonstrate, measure and assess the teams' efforts, and the promotional and educational capital to celebrate the achievements of teams and therefore change the global mindset on what is possible.



THANK YOU

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Wendy Schmidt
President, Schmidt Family Foundation

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VISION CIRCLE



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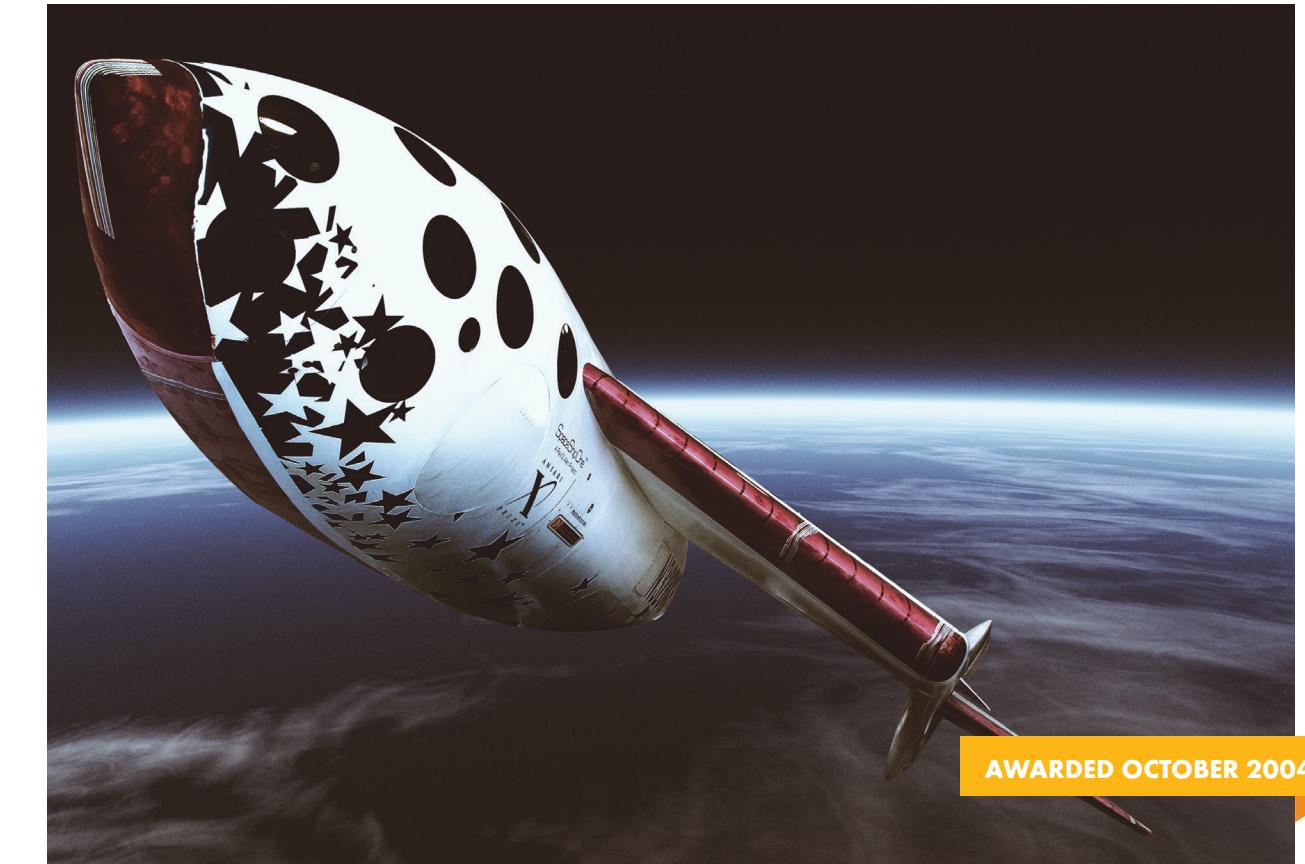


Andrew Nikou
Founder, CEO &
Managing Partner
OpenGate Capital

SPACE COMPETITIONS

SpaceShipOne
A Paul G. Allen Project

ANSARI
X
PRIZE®



AWARDED OCTOBER 2004

ANSARI **X**PRIZE®

THIS PRIZE WAS MADE
POSSIBLE BY THE ANSARI FAMILY.

The \$10 MILLION Ansari XPRIZE for suborbital spaceflight was awarded to the first team to demonstrate a privately built spaceship capable of carrying three people to 100 kilometers above the Earth's surface twice within two weeks. The \$10 million purse, funded by the Ansari family, was awarded to the Mojave Aerospace Ventures team. Famed aerospace designer Burt Rutan and his company, Scaled Composites, led the team with backing from Paul G. Allen. Altogether, 26 teams

from seven nations competed for the Ansari XPRIZE, spending more than \$100 million to win.

Since SpaceShipOne was awarded the prize, there has been more than \$2 billion in public and private expenditure in support of the private spaceflight industry. SpaceShipOne is now hanging in the Smithsonian's National Air & Space Museum next to Charles Lindbergh's airplane, the Spirit of St. Louis. The winning technology was licensed by Sir Richard Branson to create Virgin Galactic.



NORTHROP GRUMMAN LUNAR LANDER XCHALLENGE®

THIS PRIZE WAS MADE
POSSIBLE BY NORTHROP GRUMMAN,
NASA AND THE XPRIZE FOUNDATION.

The \$2M Northrop Grumman Lunar Lander XCHALLENGE was offered through a partnership between NASA, Northrop Grumman, and the XPRIZE Foundation. The competition offered a total of \$2 million in prizes for teams who could safely and repeatedly demonstrate vertical takeoff and landing of rockets on Earth while following a flight path that demanded the same capabilities and control as a

rocket-powered voyage from lunar orbit to the surface of the moon and back.

Masten Space Systems and Armadillo Aerospace each claimed prize money through the program, which marked the largest incentive award made to date by NASA.



Google LUNAR XPRIZE®

THIS PRIZE IS MADE
POSSIBLE BY GOOGLE.

The \$30M Google Lunar XPRIZE, the largest incentive prize ever offered, challenges and inspires engineers and entrepreneurs from around the world to develop low-cost methods of robotic space exploration.

To win the Google Lunar XPRIZE, a privately funded team must successfully place a robot on the moon's surface that travels at least 500 meters (one-third of a mile) and transmits high-definition video and images back to Earth. The first team to do this will claim a \$20 million Grand Prize, and the second team will earn a \$5 million prize. Teams are also eligible to win a \$1 million bonus prize for promoting diversity in both their team and outreach activities, as well as up to \$4 million in bonus prizes for achieving additional

performance goals. These goals include traveling 10 times the minimum distance, surviving the frigid lunar night, or visiting the site of a previous lunar mission.

In 2014, XPRIZE announced that teams could compete for a subset of prizes, known as the Terrestrial Milestone Prizes. Five teams competed in the areas of lander, mobility, and camera subsystems. In the early part of 2015 nine of the prizes were awarded, totaling \$5.25 million.

As the competition enters its next phase, teams have been merging, partnering and negotiating launch contracts. Currently, there are 18 teams competing from a dozen different countries.



SYNTHETIC ASTROBIOLOGY

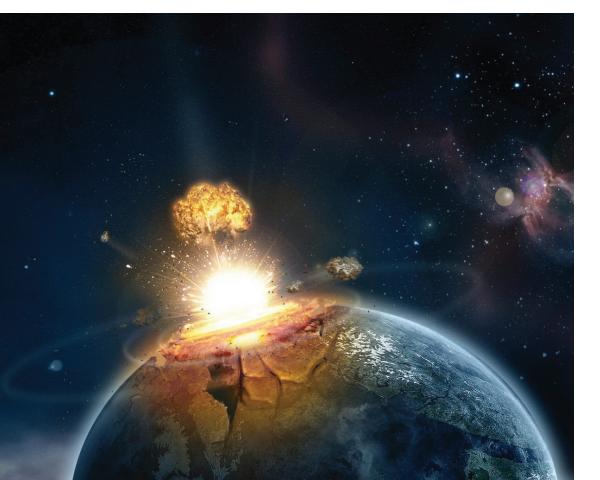
GRAND CHALLENGE

Exponential acceleration of genomic sequencing and manipulation capabilities is quickly bringing us into an era where designer organisms unlike anything on Earth are fully possible. In addition to potential benefits for future human exploration of Mars, such a high-profile project could be an exciting catalyst for other efforts in synthetic biology.

DRAFT GUIDELINES

The winning team will develop a novel organism capable of replicating under Martian surface conditions, including temperature, pressure, atmospheric composition, soil moisture and irradiance. Organisms will be tested in a Mars surface simulator for a minimum of 30 days and at least two replication cycles. In addition to self-replication, candidate biosystems should provide some output useful to future Mars explorers, such as oxygen, food, fuel or bioprocessing capabilities.

Help us launch this XPRIZE and become a part of history.



ASTEROID DEFLECTION

GRAND CHALLENGE

Thousands of asteroids and other near-Earth objects (NEOs) exist, but worldwide efforts to date have only been able to catalog and track a fraction of them. Historical impacts with Earth have had collision forces exceeding those of a nuclear bomb, causing massive destruction and climate change.

While the likelihood of future events is not great, there have been some relative near misses, and the ramifications of a future collision could prove devastating.

DRAFT GUIDELINES

The winning team will select a target NEO of at least 50 meters in diameter in an orbit that is not Earth intersecting, and predict how they will alter the path of the NEO. The alteration must cause a deviation in the NEO's path of one Earth diameter over a one-year period. The team must then actually alter the path of the NEO in a controllable fashion that is within 99.999 percent accuracy of the predicted path. The method must be scalable for NEOs of up to one kilometer in size.

*Make the impossible possible.
Support the launch of this XPRIZE.*

ORBITAL DEBRIS REMOVAL

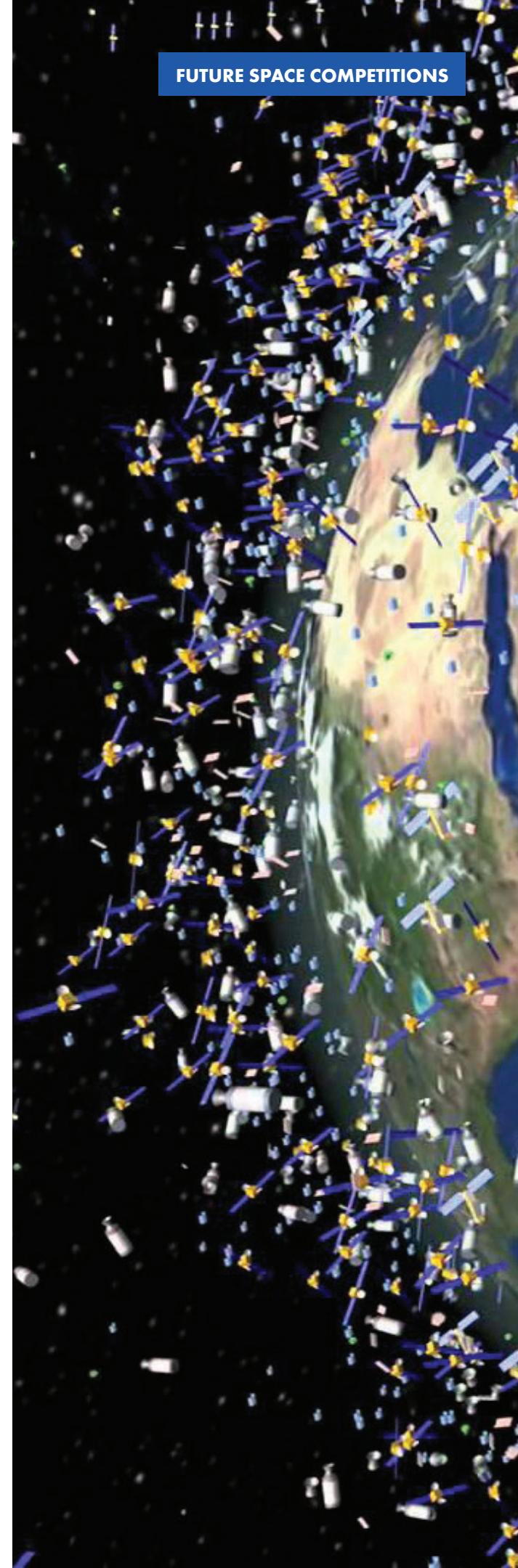
GRAND CHALLENGE

Tens of millions of pieces of debris are currently orbiting Earth at altitudes that pose a danger to satellites and spacecraft. The threats from such debris are predicted to rise 50 percent in the coming decade and quadruple over the next 50 years. Large object collisions are particularly dangerous due to the ensuing creation of additional debris that could further threaten critical satellites. This problem poses a threat both to spacecraft in orbit and to those that need to pass through a gauntlet of debris to reach their intended orbit. This XPRIZE seeks a low-cost, scalable method for the safe and efficient disposal of orbital debris.

DRAFT GUIDELINES

The winning team will target and remove a minimum of five specified pieces of cataloged space debris larger than 50 centimeters from Low Earth Orbit or Geostationary Earth Orbit altitudes. The winning team must deposit the debris in an accepted safe location in a predicted fashion within a limited amount of time.

*Partner with XPRIZE and support this competition.
Contact us to find out how.*



OCEAN COMPETITIONS



AWARDED OCTOBER 2011

WENDY SCHMIDT
OIL CLEANUP **XCHALLENGE**®

THIS PRIZE WAS MADE POSSIBLE BY
A GENEROUS GRANT FROM WENDY SCHMIDT.

The \$1.4M Wendy Schmidt Oil Cleanup XCHALLENGE was a global competition designed to inspire entrepreneurs, engineers, and scientists worldwide to develop innovative, rapidly deployable, and highly efficient methods of capturing crude oil from the ocean surface.

This competition attracted more than 350 preregistered teams. It culminated in summer 2011 when the 10 finalists tested their equipment individually over a 10-week period at the Ohmsett facility in Leonardo, N.J.

The winning teams were required to demonstrate the highest ability to recover oil on the seawater surface

at the highest oil recovery rate above 2,500 gallons per minute, with an oil recovery efficiency greater than 70 percent. Impressively, 7 of the 10 finalist teams doubled the current industry standard, and the first-place team, Elastec/American Marine, was able to quadruple the set goal.

The competition was generously underwritten by title donor Wendy Schmidt, president of the Schmidt Family Foundation, and was also supported by Shell in an effort to ensure that technologies emerging from the competition were introduced into the marketplace.



**WENDY SCHMIDT
OCEAN HEALTH XPRIZE®**

THIS PRIZE IS MADE POSSIBLE BY
A GENEROUS GRANT FROM WENDY SCHMIDT.

The \$2M Wendy Schmidt Ocean Health XPRIZE is a competition to improve our understanding of ocean acidification. Rising levels of atmospheric carbon dioxide are causing the ocean to steadily acidify. Ocean acidification has the potential to challenge life on a scale that has not occurred for tens of millions of years, with unprecedented potential impacts on economies, communities, and ecosystems. However, due to a severe lack of effective monitoring technologies, ocean acidification has only been well documented in a few shallow oceanic waters. Relatively little is known about the high latitudes, coastal areas, and marginal seas, and we know almost nothing about deep ocean pH.

In order to more fully understand and adapt to the threat of ocean acidification, we must have better pH-sensing systems to monitor and collect ocean pH data. Creating these tools is the first step on a path to solving ocean acidification. Two \$1 million purses will incentivize teams to produce pH sensors that are significantly more accurate, durable, and affordable than existing technologies.

The winning teams will develop technology that best demonstrates accurate, stable, efficient, and robust pH sensors in the variety of conditions that will be faced once deployed throughout the ocean.

This prize will be awarded in 2015.

OCEAN MAPPING

PRIZE DEVELOPMENT
WORK FUNDED BY SHELL.

GRAND CHALLENGE

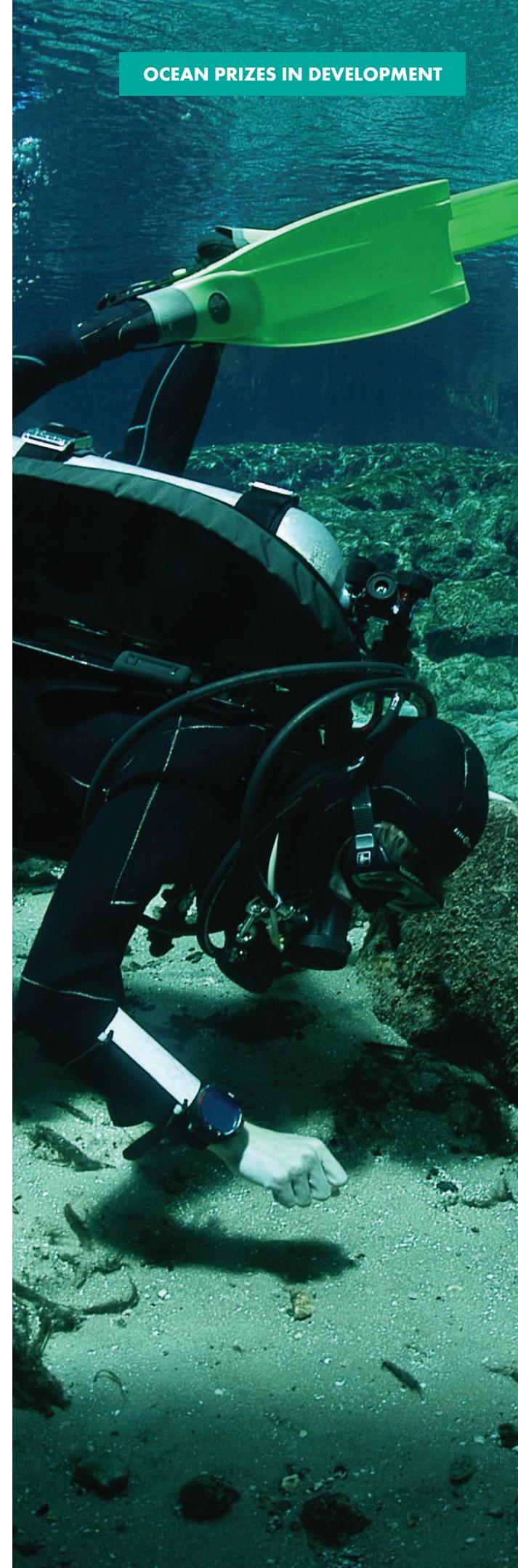
We don't know what we don't know about our oceans. We currently lack high-resolution maps of nearly 75 percent of the planet's surface—indeed, we know more about the surface of Mars than about the floor of Earth's oceans. Improved knowledge of the deep ocean and whole water column is critical for advancing exploration, navigation, basic geological discovery, economic development and ocean protection.

Today's technologies can provide only limited insight into the topographical, biological, and archaeological aspects of our oceans, and they remain expensive to deploy, further limiting their use. We need technologies that have the potential to survey the entirety of the ocean, radically improve our knowledge and understanding of the vast unexplored areas of the sea, and enable new scientific research and innovative applications. By catalyzing technologies that can produce an integrated view of the terrain, life, and chemistry of our seas, the Ocean Mapping XPRIZE will launch a new age of ocean exploration.

DRAFT GUIDELINES

The winning team will deploy a system that can create a multilayer map of the deep sea and identify geologic, biological, and archaeological features of the ocean with no human intervention between system launch and data recovery. Teams will compete in multiple rounds of increasing depth, size, and expected diversity of data and imagery to showcase the power of exploring our oceans.

Partner with XPRIZE and support these competitions.
Contact us to find out how.





SUSTAINABLE FISHING

GRAND CHALLENGE

More than half the world's population relies on the seas as their source of protein. As the Earth's population soars toward 10 billion, this increasing pressure has resulted in devastation for many of the world's fisheries. The fish that sustain billions of people around the world are being overfished at an unsustainable rate. By some estimates, all wild fisheries will have completely collapsed by the middle of this century. But the protections that have been put in place suffer from the incredible difficulty in enforcing regulations and preventing illegal, unregulated and unreported fishing. This prize will create effective solutions to verify when, where, how, and by whom fish are caught, thus providing enforcement officials the data to act, consumers the confidence to purchase healthy, safe, and legal fish, and communities the ability to enforce sustainable practices.

DRAFT GUIDELINES

The winning team will create an information technology-based solution to illegal, unreported and unregulated fishing. The winning solution will be a device or process that utilizes appropriate algorithms to (1) identify the fish species, (2) identify its site of origin, and (3) provide an accurate description of where the fish has traveled from its source to the end market (either port of control or final customer). These results must be provided within 4 hours and with at least 90 percent confidence. Teams will be judged on their accuracy of identification and ease of interpretation by the end user (customers and enforcement officials), with the greatest accuracy and confidence in interpretation determining the winner.

Contact us to find out how you can help launch this XPRIZE.

OCEAN PLASTICS

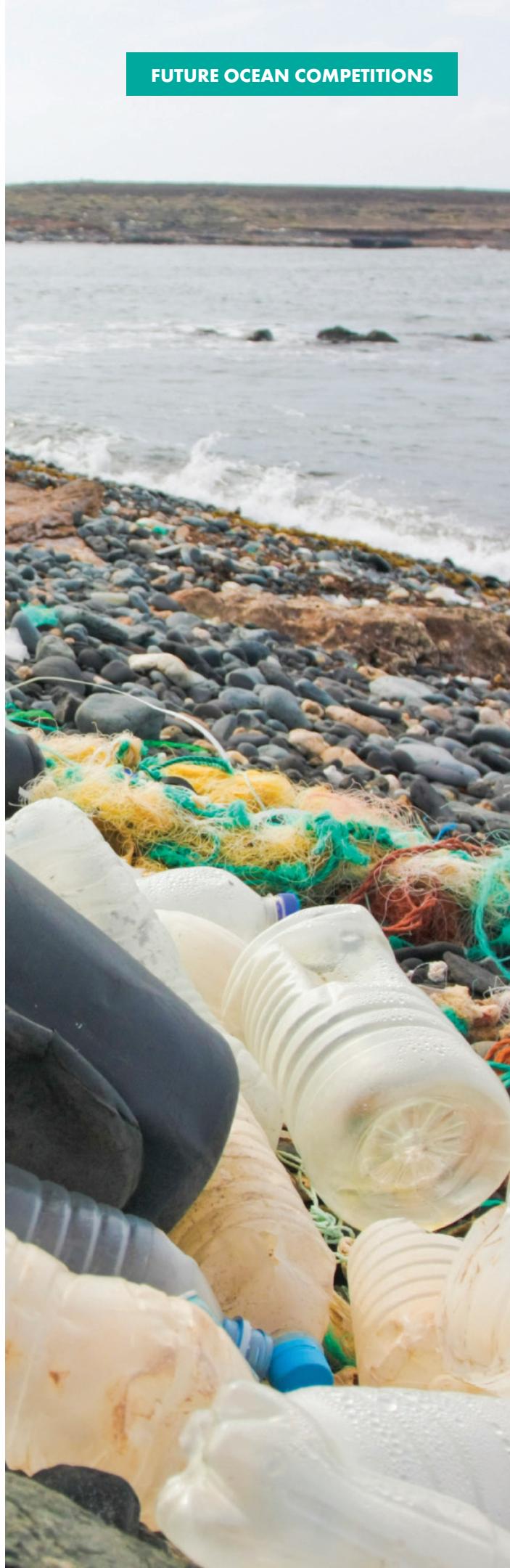
GRAND CHALLENGE

Nearly 80 percent of the 450 billion pounds of plastic produced annually is not recycled. Instead, it is deposited into landfills or travels to the ocean, where it accumulates in massive garbage patches of marine litter in the world's major ocean gyres. Marine plastic pollution is growing at a rate of 11 billion pounds each year. Plastic pollution also degrades slower in a marine environment because of the reduced exposure to UV rays and cooler temperatures. Mistaking plastic for food, marine life ingests this toxic material, which can then move through the food chain and can potentially harm humans. The production of an ocean degradable resin will help solve the ocean plastics pollution problem. It will close the carbon loop and decrease petroleum consumption and waste. It will also set strict industry standards for biodegradable resins and establish the environmentally safe degradation of plastic as an important product feature. In the end, it will save numerous marine species that often mistake plastic for food.

DRAFT GUIDELINES

The winning team will create a commercial alternative to a petroleum-based plastic resin that is (1) ocean degradable, (2) developed from a renewable resource, and (3) can be produced to meet a yearly volume of 500 million pounds. An ocean degradable solution must be environmentally inert at the molecular level within six months. The winning solution must also be biodegradable, environmentally safe in both marine and terrestrial environments and safe for human use.

Partner with XPRIZE and support these competitions.
Contact us to find out how.



MARINE PROTECTED AREA

GRAND CHALLENGE

Despite covering more than two-thirds of the Earth's surface, and providing uncalculated resources and services that support all of civilization, only 0.5 percent of our oceans have received formal protection, compared to 13 percent of land that has been protected. Increasing the size of the world's marine-protected areas (MPAs) is crucial to ocean health and, ultimately, the planet's health. Yet there is a glaring lack of information on the habitats, resources, and ecosystems present in our seas, making protection, monitoring, and enforcement of MPAs a nearly impossible task.

Marine protection has the additional challenge that the world's oceans are thoroughly interconnected and form the basis of economic activity for billions of people and communities throughout the world. Thus, one-size-fits-all approaches to creating protected areas, e.g. where fishermen are completely excluded, are not sufficient for protecting biodiversity or the value that oceans provide to humans. The Marine Protection XPRIZE will incentivize technological breakthroughs that enable communities and governments to identify and determine protected areas and their uses, as well as to monitor and protect the valuable habitats and species of our seas.

DRAFT GUIDELINES

The winning team will create a universal MPA monitoring solution that autonomously assesses the biological characteristics, species, and resources over a 100 sq. km area for less than \$100 per day. The winning solution must be useable in diverse environments and be effective at assessing the potential resources and uses specific areas may provide to nearby communities. Teams will be challenged to provide continuous data at a frequency of at least once a day over the course of month-long trials in three dynamic environments. They must accurately create a baseline of the habitat and provide accurate updates on the changes to the ecosystem that can be utilized by communities of low technical capacity or education. Additional criteria will test the effects of human use, invasive species, fishing and resource extraction, and water quality impacts from land-based activities on the state of the habitat.

Change the world.
Contact us to find out how you can help launch this XPRIZE.





SUSTAINABLE AQUACULTURE

GRAND CHALLENGE

As human populations grow and increase in prosperity, the global demand for protein is anticipated to skyrocket over the next several decades. And with almost all of the world's arable land overtaxed already, new sources of protein and other food are needed, with only the ocean as a viable opportunity. But we need to meet the rapidly growing global demand for seafood without destroying ocean ecosystems. Wild fisheries have likely peaked, and current industrial fishing practices are wasteful, killing millions of unused fish, birds, sea turtles and marine mammals.

Aquaculture, or fish farming, is already making up for the losses in some wild-caught fisheries, and it is one of the fastest-growing food production systems. Yet aquaculture will need to more than double in size by 2050 to meet growing seafood demand, and many current aquaculture farms are inefficient, destructive to the environment and so filthy that they can threaten human health. In many cases aquaculture does more harm than good.

This prize will transform the productivity, efficiency, and sustainability of aquaculture farms by developing cutting-edge techniques for "aquaponics" which combines sustainable aquaculture and sustainable hydroponic agriculture techniques into a closed-loop facility. This method of aquaculture greatly increases overall food production using less space, and lessens environmental impact. The sustainable aquaculture prize will catalyze the growth of the aquaculture industry by inspiring breakthroughs that create the world's most sustainable animal protein while fostering economic growth and protecting the environment.

DRAFT GUIDELINES

The winning team will design and construct a closed-system aquaponics farm growing more than four total species comprised of both plants and aquatic animals on X acres of land or water, which sells the most tons of food in a year's time while achieving high sustainability standards.

*Change the world.
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MARINE TAGGING

GRAND CHALLENGE

The most mobile animals in the ocean are also some of the most endangered such as whales, sharks, bluefin tuna, seals, penguins and sea turtles. Their extended ranges force them to encounter unregulated waters and many human-caused threats from poaching, fishing nets, deadly ship strikes and various sources of pollution. But due to a lack of good tagging technologies there is little information about the whereabouts for many of the world's most endangered marine animals, making it incredibly difficult to protect them. To save marine life we need to be aware of their secret lives, and to do so we will need breakthrough tools to tag and track them.

DRAFT GUIDELINES

The winning team will develop a breakthrough tagging technology that can be applied to multiple species, be deployed for a minimum of five years, demonstrate increased sensor capabilities for reporting animal behavior and physical information, have non-harmful attachment techniques, be no larger than X square centimeters, and provide real-time reporting capabilities.

OCEAN WEATHER

GRAND CHALLENGE

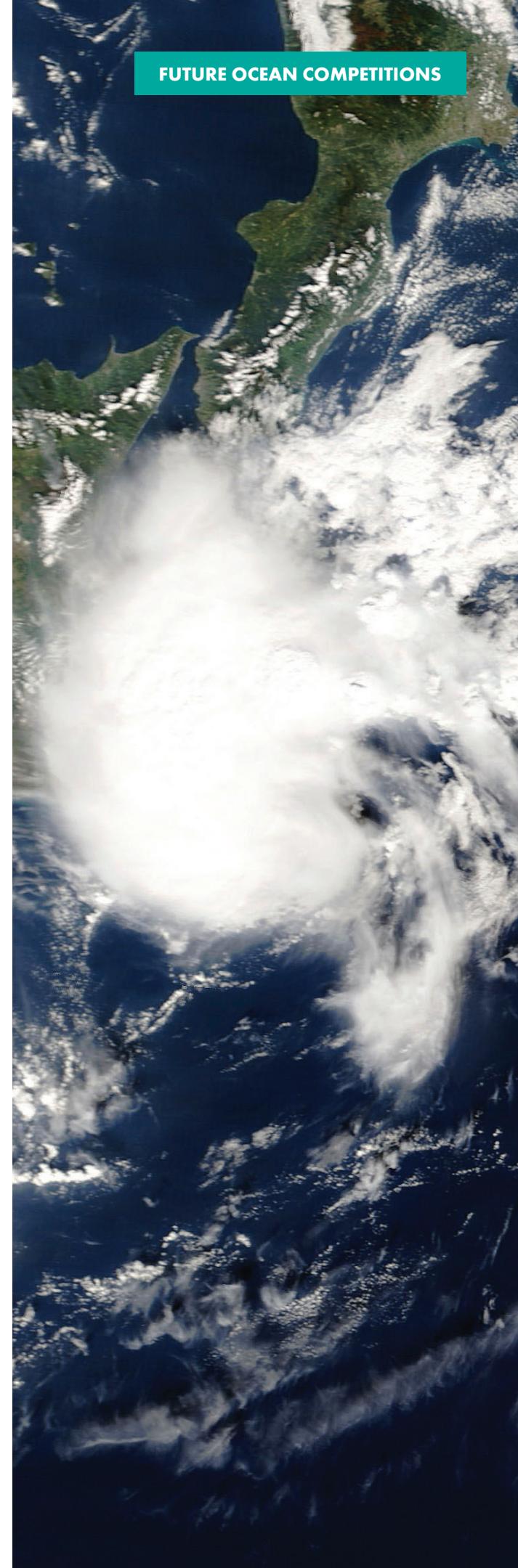
Annually, over 2 billion people in coastal communities around the world, as well as many marine industries, are negatively impacted by tropical storms because they do not have accurate storm information early enough to properly prepare for or minimize damages. The estimated annual cost of damage resulting from tropical storms globally is approximately \$26 billion. These costs are expected to rise to more than \$100 billion by 2100, due to a greater number of people and activities in the storms' paths. Currently, we cannot accurately predict tropical storm track, intensity, the number and location of storms in a season, and other parameters at meaningful accuracy in advance of more than one or two days. The Ocean Weather Prediction XPRIZE will improve data gathering over the oceans to improve our ability to predict and track tropical storms transforming how we respond to weather events globally.

DRAFT GUIDELINES

The winning team will develop new weather prediction methods and technologies that improve storm tracking to within 50 miles with a 10-day lead time. It will improve intensity prediction to within 15 mph with a 5 day lead time. The winning solution will (1) include efficient, and robust technology that can withstand harsh marine environments, collect vital data and deliver it under extreme storm conditions, and (2) demonstrate the utility of the data in forecast models to create immediate improved track and intensity forecasts. Bonus prizes may be offered for improved predictions of related parameters, such as storm surge, off-shore wave heights and wind speeds.

Change the world.
Contact us to find out how you can help launch this XPRIZE.

Help us launch this XPRIZE and become a part of history.





NOKIA SENSING XCHALLENGE®

THIS PRIZE WAS MADE POSSIBLE BY NOKIA CORPORATION.

The Nokia Sensing XCHALLENGE was launched in May 2012 and was comprised of two separate Competitions with a prize purse totaling \$2.25 million. This was a global competition attracting more than 250 preregistered teams for both Competition #1 and #2, with the first competition awarded in October 2012 to Team Nanobiosym and the second Competition awarded in November 2014 to Team DMI.

The competition incentivized the talents of electrical engineers, scientists, and biomedical technicians from around the world to design and commercialize a new generation of highly accurate sensors and sensing

methods that will revolutionize personalized medicine and care through noninvasive health monitoring.

The winning teams were required to submit an entry that addressed several parameters, most importantly, the ability to present a solution that would accurately, reliably and effectively collect meaningful data to be used for identification or diagnosis of a disease, medical condition or pattern of health.

Nokia, a leader in Open Innovation was a great Title Sponsor, supporting the innovation in technologies that will transform the way healthcare is delivered across the globe.



QUALCOMM TRICORDER **XPRIZE**®

THIS PRIZE IS MADE POSSIBLE BY A GENEROUS
GRANT FROM THE QUALCOMM FOUNDATION.

The \$10M Qualcomm Tricorder XPRIZE to be awarded in 2016, aims to create a new category of consumer device that puts "health in the palm of your hand." The combination of cloud computing, mobile platforms, artificial intelligence, and lab-on-a-chip technology offers us the ability to provide almost 7 billion people on Earth with low-cost, reliable, point-of-care medical diagnostics. In the developed world, preventable medical errors in hospitals result in tens of thousands of deaths per year; preventable medication errors occur at least 1.5 million times per year; and, on average, adults receive only 55 percent of

recommended health care. In the developing world, billions of people have no access to medical care.

The winning team will develop a device that weighs less than 5 pounds and is capable of capturing key health metrics and diagnosing a set of 15 diseases. This prize will bring understandable, easily accessible health information and metrics to consumers on their mobile devices, leading to improvements in the quality of care, improved patient outcomes, and lower overall healthcare delivery costs.



KIDNEY DISEASE

PRIZE DEVELOPMENT WORK
FUNDDED BY THE AMERICAN SOCIETY OF NEPHROLOGY.

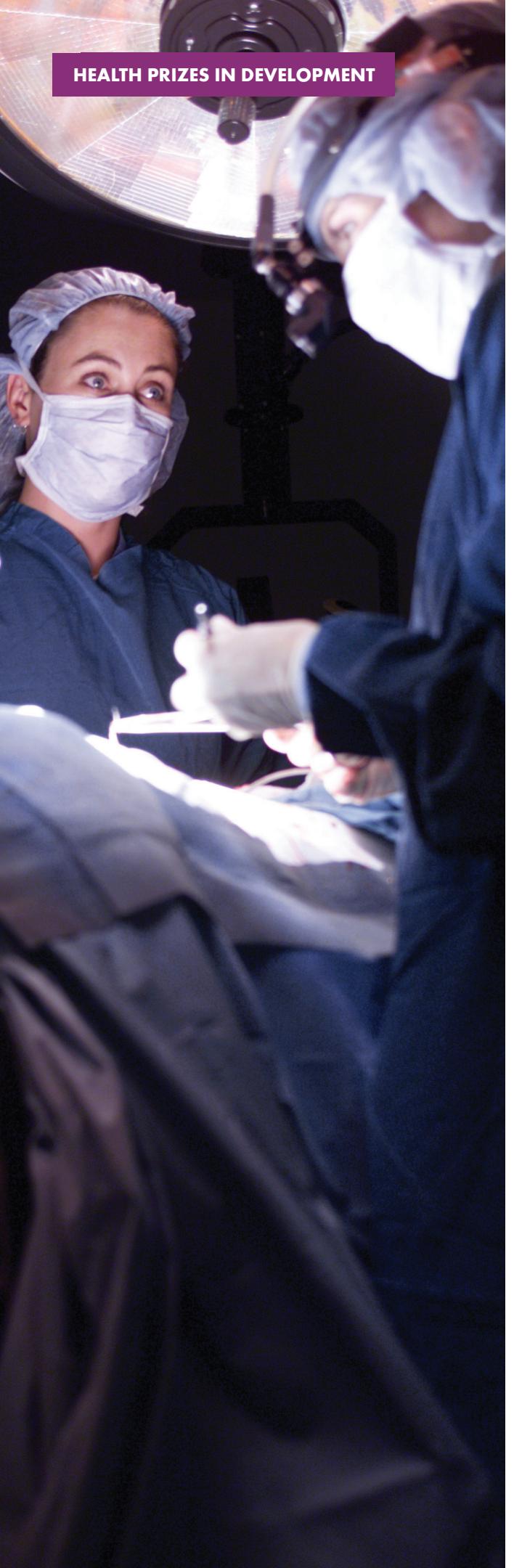
GRAND CHALLENGE

More than 20 million Americans suffer from chronic kidney disease. Once a patient reaches Stage 5, or end stage renal disease, treatment is critical to extending the patient's life. Every year in the United States, more than 100,000 people begin dialysis treatment for kidney failure. These individuals suffer through the economic challenges and poor health outcomes that are integral to the patient experience on dialysis, including job loss, malaise, depression, and repeated infections and hospital readmissions.

Significant market failures have contributed to the lack of effective, efficient, patient-centric treatments for kidney failure. Medicare's End Stage Renal Disease Program entitles those under the age of 65 suffering from kidney failure to lifesaving treatments. Every year, Medicare spends nearly \$35 billion on treatments for kidney failure, which is more than the total yearly budget of the National Institutes of Health. These guaranteed government payments have incentivized the development of a near monopoly of for-profit dialysis service providers in the United States, resulting in a lack of significant innovation in the field of kidney disease treatment for many decades.

The Kidney Disease XPRIZE will challenge teams to overcome decades of stagnation in kidney disease treatment. This prize will create a fundamental shift in the way we treat kidney disease by focusing on patient-centric therapeutic devices that improve patients' quality of life. The winning team will develop a wearable or implantable, tether-free, needle-free, and self-regulating renal replacement therapy. The therapy must improve toxin clearance, fluid and electrolyte regulation, and endocrine regulation. In addition it must address the challenge of vascular access and the associated problems of bleeding, clotting and bio-fouling.

The Kidney Disease XPRIZE will incentivize innovation in a stagnant field. Progress has been slow and incremental in the past three decades. The technology developed by this prize will bypass perverse incentives that hinder innovation, and develop new technologies for treating kidney failure. The result will be improved patient outcomes and a reduced social burden.



ORGANOGENESIS

**PRIZE DEVELOPMENT WORK
FUNDED BY UCLA DREAM FUND.**

GRAND CHALLENGE

There is currently a shortage of available transplantable organs. Roughly 1 million organs are needed worldwide and in 2012, only 114,690 transplants were performed. Due to the lack of available organs for transplant, patients get caught in a "catch-22." In order to place high enough on the organ waiting list, they must be one of the sickest patients, yet well enough to survive the transplant surgery. With immunological suppression, the median organ transplant survival rate is approximately nine years. While this survival period is often characterized by improved function and quality of life, chronic rejection eventually sets in for almost all patients, resulting in deteriorating health. These patients would potentially have better outcomes if they received transplants at an earlier stage in their disease.

DRAFT GUIDELINES

The winning team will demonstrate the successful function of a bioengineered human tissue and/or human organ (heart, lung, liver or kidney). These demonstrations will be showcased in a bioreactor (\$1 - \$2 million purse for demonstrating a tissue or \$10 million purse for demonstrating an organ) or via one or two successful in-human organ transplants (\$30 million purse, \$20 million purse respectively).

Help us launch this XPRIZE and become a part of history.

ALZHEIMER'S DISEASE

**PRIZE DEVELOPMENT WORK
FUNDED BY PRIVATE DONORS.**

GRAND CHALLENGE

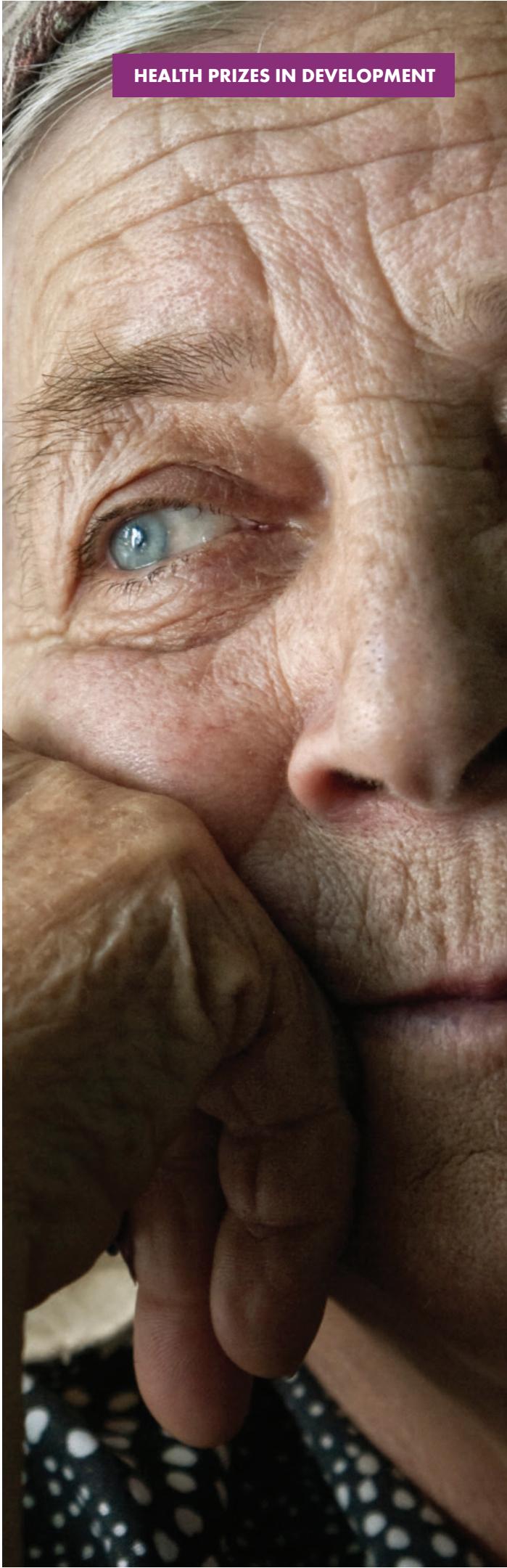
More than 5.3 million people are currently diagnosed with Alzheimer's disease in the United States, and that number is expected to double by 2030. The global costs of the disease are estimated at \$604 billion, or 1 percent of global GDP. Despite this looming crisis, no definitive, early means of diagnosis or successful treatment exists today. This prize development effort focuses on two key areas — screening and treatments — to catalyze breakthroughs that will enable early patient targeting and effective delivery of treatment and care.

DRAFT GUIDELINES

Two potential prize concepts have arisen from prize development work in Alzheimer's focusing on screening and treatment. The winning team will:

1. The winning team will develop the means to effectively and scalably screen patients at risk for Alzheimer's disease.
2. The winning team will demonstrate the ability to improve cognitive function in late stage Alzheimer's patients.

*Change the world.
Contact us to find out how you can help launch this XPRIZE.*



HAPPINESS

PRIZE DEVELOPMENT WORK
FUNDED BY COCA-COLA.

GRAND CHALLENGE

If we are to take actionable steps to intervene in and positively affect happiness, we must first be able to detect, measure, and quantify our emotional and mental states.

More than just positive feelings, happiness is the overall valuation that people make about their lives, bodies, minds and circumstances. Happy people enjoy longer, healthier, more productive, and ultimately more fulfilling lives. The ability to objectively measure happiness would illuminate how actions affect emotions. It would help inform individuals of these drivers so that they can make better choices about allocating time and resources to maximize their happiness. It could enable policy and decision makers in governments, companies, schools, or health facilities to measure effects of interventions for increasing happiness of their stakeholders.

The Happiness XPRIZE will inspire psychologists, engineers, computer programmers, and other stakeholders to join forces to advance innovations in technologies for measuring happiness and other emotions. It will spur the development of a new

gold standard in measuring happiness, capable of providing insights that enable individuals to take actionable steps to increase their own happiness.

XPRIZE envisions a future in which individuals and organizations can track how actions drive both positive and negative experiences, enabling them to make informed decisions to guide emotional experiences.

DRAFT GUIDELINES

The winning team will develop a technology that can measure, track, and report individuals' happiness. During Phase I of the competition, the winning technology will most accurately predict happiness in a test population of 100 randomly selected individuals. It will be scalable, portable, user-friendly, engaging, empowering, and addictive. During Phase II of the competition, top U.S. companies will compete against one another to develop and implement workplace policies that increase employee happiness by the greatest amount. Companies will use the top technologies from Phase I of the competition to measure the effects that their policies have on employees' happiness.

Want to make this XPRIZE a reality? Contact us to see how you can become a prize sponsor.





ROBOTIC HOME HELPER

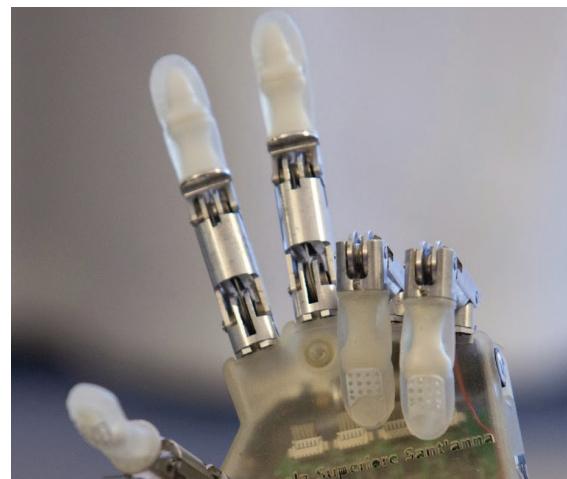
GRAND CHALLENGE

In the U.S., the number of elderly individuals has increased by a factor of 11 in the past century, while the population under age 65 has merely tripled. As a result, there are not enough young adults available to care for this huge elderly population. Assistive technology is crucial for baby boomers who are searching for solutions to help care for their aging parents. With this XPRIZE, robots would become accepted as standard members of households, eventually developing into indispensable helpers.

DRAFT GUIDELINES

The winning team will be the first to develop and demonstrate an autonomous robot that can clean up a room from a state of "randomness" to a state defined as "clean." During the competition, a team will place a robot into a "clean" room, with the robot having 1 hour to memorize this state. The room will then be randomized (made disorderly and dirty), and the robot will have 8 hours to return the room to its initial "clean" state.

Partner with XPRIZE and support these competitions.
Contact us to find out how.



BIONICS

GRAND CHALLENGE

There are nearly 6 million people living without the use of their legs from paralysis or limb loss due to infection, injury, disease, postoperative complications or trauma. Currently, these individuals' only alternative for mobility is a wheelchair or walker. There are also tens of millions of aged adults with greatly reduced functional mobility who may be driven to institutional care as a result.

DRAFT GUIDELINES

This competition seeks to restore a paraplegic individual to normal capability. The competition takes place in two phases:

Phase 1: The winning team will develop an exoskeleton that can be put on and removed by the individual. The system must allow the individual to perform a number of baseline functions, including standing/sitting, using the toilet, climbing up and down stairs, walking 100 meters through a wooded trail, and standing from a horizontal position. All of this must occur with hands-free function.

Phase 2: All teams that qualify from Phase 1 are eligible to compete in a yearly date-certain event involving running, biking, climbing and dancing competitions with \$2 million in purses at stake.



BIOFEEDBACK

GRAND CHALLENGE

More than 100 million Americans suffer from chronic pain at a cost of approximately \$600 billion per year in medical treatments and lost productivity. Biofeedback has been shown to help improve chronic pain, as well as 150 other medical conditions. Currently, biofeedback training must be conducted at medical centers over a number of 30- to 60-minute sessions, a process that requires both time and money. The goal of a prize would be to make biofeedback training accessible to everyone.

DRAFT GUIDELINES

Teams will design solutions that deploy the practice of biofeedback and safely monitor the results for 10 illnesses in a test pool of 100 patients (1,000 total patients). Diseases that could be addressed by this application include asthma, insomnia, chronic pain, fatigue, migraine headaches, high blood pressure, and irritable bowel syndrome. The winning team will demonstrate the greatest improvement per patient as measured by patient reporting and doctor evaluation.

Change the world.
Contact us to find out how you can help launch this XPRIZE.



CANCER DETECTION

GRAND CHALLENGE

The incidence rates of several types of cancer (e.g., liver, pancreatic, kidney, esophageal and thyroid) continue to rise. And the rates of breast, prostate, colon, and lung cancer remain high. A key challenge to cancer control and prevention is early detection of the disease. With this prize, cancer can become as simple to detect as one's cholesterol levels. Early detection will lead to more cancers being treated, resulting in a greater number of saved lives.

DRAFT GUIDELINES

The winning team will develop a highly accurate and precise blood test for one of the target cancers (breast, prostate, colon, lung, liver, pancreatic and esophageal). Competitors will be given a panel of 1,000 blood samples, 50 of which are from individuals who are known to have later developed a specific cancer within one year. The winning team will correctly identify all cancer-positive and cancer-negative samples.

Help us launch this XPRIZE and become a part of history.



CRYOPRESERVATION

GRAND CHALLENGE

Organ cryopreservation is considered a frontier discipline in both cryobiology and medicine. For several decades, we have been able to successfully cryopreserve semen, blood, embryos, oocytes, stem cells, and other thin samples of small clumps of cells. However, we have not yet been able to cryopreserve whole human internal organs, as they sustain too much injury during the cooling process.

Successful preservation of organs can increase the effectiveness and decrease the cost of organ replacement by reducing the geographical and time constraints associated with organ transplantation. This would help the more than 100,000 people currently on the national waiting list for organ donation.

Organ cryopreservation could also provide a way for people to store and manage replacement organs grown from their own stem cells, instead of having to wait on a compatible donor. The regeneration of organs could help substantially postpone more than 30 percent of all deaths in the U.S., raising the probability of living to the age of 80 by a factor of two and the age of 90 by a factor of more than 10.

The success of this prize could transform transplantation from the small field it is today into what will likely become the largest field in medicine. In this new future, cryopreserved tissues would not only be used to replace body parts, repair wounds, and replenish diseased or dead tissues, but could also eventually be used to rejuvenate aging people and make whole-body cryonics a reality.

DRAFT GUIDELINES

The winning team will be the first to transplant a vital organ into five animals that lack their own and achieve three months' posttransplant survival, having stored each organ below -120°C for at least one week prior to transplantation.

Contact us to find out how you can help launch this XPRIZE.



SAME SEX REPRODUCTION (XX/YY)

GRAND CHALLENGE

There are estimated to be four to eight million LGBT people living in the U.S. LGBT couples that wish to have children must rely on donor eggs, sperm and surrogates in order to have a family. Even in the most successful scenarios, the resulting children have only the genes of one parent. Advances in stem cell technology may have the power to enable same sex couples to have children resulting from the genetic combination of genes from both parents. A Same Sex Reproduction XPRIZE has the power to offer hope and joy to LGBT couples, furthering equal opportunities to all people on our planet.

DRAFT GUIDELINES

The winning team will develop a technology for deriving a healthy embryo from the donor material of two genetic men or two genetic women. Additionally, teams will work with voluntary couples and surrogates to use this approach to help these couples have children. The prize will be awarded upon the successful birth of two healthy babies achieved by the winning technique.

Partner with XPRIZE and support these competitions.
Contact us to find out how.



TRANSPORTATION COMPETITIONS



AWARDED SEPTEMBER 2010

PROGRESSIVE AUTOMOTIVE XPRIZE®

THIS PRIZE WAS MADE POSSIBLE BY PROGRESSIVE INSURANCE AND THE U.S. DEPARTMENT OF ENERGY, AND PRIVATE FUNDING FROM RAY SIDNEY AND JEFFREY L. SHAMES.

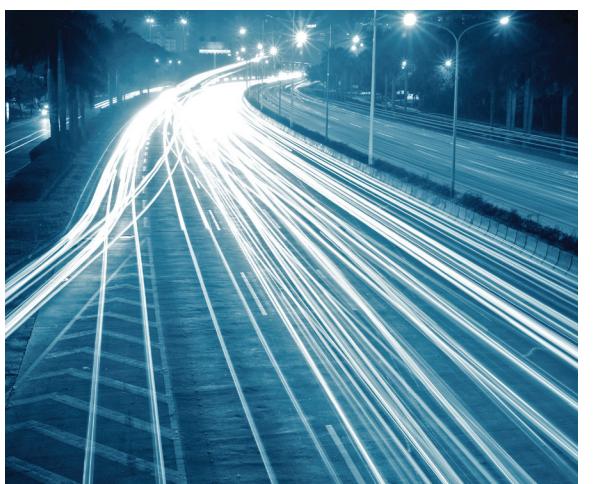
The \$10M Progressive Insurance Automotive XPRIZE was a global competition developed to inspire a new generation of viable, safe, affordable, and super-fuel-efficient vehicles capable of capturing the interest of consumers. The \$10 million prize purse was split among three winning teams – \$5 million to Mainstream Class winner Edison2, \$2.5 million to Alternative Class (tandem seating) winner X-Tracer Switzerland, and \$2.5 million to Alternative Class (side-by-side seating) winner Li-ion Motors. The top three winning vehicles successfully achieved between 102.5 miles per gallon gasoline equivalent (MPGe) and 187.5 MPGe.

With our partners at Consumer Reports, we also advanced the adoption of a new consumer metric (MPGe), offering the public the ability to make an apples-to-apples comparison between this next generation of vehicles that will use a variety of energy sources/fuels and the conventional cars they drive today. Progressive Insurance (the title sponsor of this prize) and the U.S. Department of Energy (a major supporter) both believe in incentivizing innovation through competition to reshape the automotive industry. The competition also received significant private funding from Ray Sidney and Jeffrey L. Shames, and it attracted more than 130 vehicles from 20 nations.



TRANSPORTER

**PRISE DEVELOPMENT
WORK FUNDED BY
THE RODDENBERRY FOUNDATION**



ROAD ELECTRIFICATION

**PRISE DEVELOPMENT
WORK FUNDED BY FPL.**

GRAND CHALLENGE

Throughout history, humans have imagined using personal flying machines for recreation, exploration, and commuting to and from work. Though automobiles once represented freedom and fun, the growth of congestion and pollution has increasingly made cars a burdensome way to get from place to place and a hindrance to exploration. Today, we face the Grand Challenge of creating a future where transportation is once again equated with individual freedom, mobility, and independence and is universally accessible.

DRAFT GUIDELINES

The winning team will demonstrate a vehicle that can transport at least one person (plus additional cargo weight), utilize vertical takeoff and landing (VTOL), and autonomously navigate through a three-dimensional course. The vehicle must also demonstrate the ability to land safely in the event of an emergency, as well as have noise levels significantly below that of today's helicopters.



URBAN TRANSIT



SELF-REPLICATING SYSTEMS

GRAND CHALLENGE

Transportation electrification has the potential to transform the transportation sector while improving economic security, public health and the environment. The most transformational approach to solving this challenge is to electrify the infrastructure we already use today – our roads. The goal of this prize is to successfully demonstrate the feasibility of embedding in-motion charging equipment in roadways in order to charge multiple electric vehicles while driving.

DRAFT GUIDELINES

The winning team will be the first to develop in-motion charging equipment that has the highest performance above a TBD baseline focused on power transfer rate, efficiency and alignment, equipment size and weight, durability and safety.

Contact us to find out how you can help launch these prizes.

GRAND CHALLENGE

One hundred years ago, only 20 percent of people lived in urban areas. Today, the urban population represents more than half of the global population, and by 2050, it is projected to be 70 percent. Extreme urban density will undoubtedly strain, if not break, existing city transit systems. An entirely new approach to public transit will be needed. The Urban Transit prize will spur the development of new modes of affordable public transit and revolutionize how we think about mobility.

DRAFT GUIDELINES

The winning team will develop a new generation of urban transit systems that can transport 100 or more people while being 50 percent more efficient than today's technology, cost less than \$20 a month per person, and cause no more than a 5-minute delay on a scheduled route. Teams may develop entirely new forms of transportation and/or enhance traditional or nontraditional transportation business models.

GRAND CHALLENGE

Large-scale energy and environmental challenges have the potential to be solved by machine systems. Machine systems that can mimic the behavior of living plants by making nearly complete copies of themselves using local energy and materials. Such self-replicating systems promise to revolutionize manufacturing and enable large scale renewable energy production, global environmental remediation, and ultimately, the long-term exploration of space.

DRAFT GUIDELINES

The winning team will be the first to demonstrate a nonbiological, self-replicating system that has:

1. A volume and weight less than that of a standard ocean-shipping container.
2. Less than 5 percent of its inputs are nonreplication inputs (inputs that are not supplied by the local environment and must be added by human counterparts).
3. A maximum replication time of 90 days.
4. Can produce at least two generations beyond initial seed components.

Contact us to find out how you can help launch these prizes.



LEARNING COMPETITIONS



GLOBAL LEARNING XPRIZE

THIS PRIZE IS MADE POSSIBLE BY GENEROUS DONATIONS FROM THE DICK AND BETSY DEVOS FAMILY FOUNDATION, THE ECONET FOUNDATION, SCOTT HASSAN, THE MERKIN FAMILY FOUNDATION, JOHN RAYMONDS, THE ANTHONY ROBBINS FOUNDATION AND SUZANNE WEST.

An estimated 250 million children around the world cannot read, write or demonstrate basic arithmetic skills. Many of these children are in developing countries without regular access to quality schools or teachers. In fact, UNESCO estimates that the world will need 1.6 million more teachers globally by 2015. And that number is set to double by 2030. While programs exist to build schools and train teachers, traditional models of education are not able to scale fast enough to meet demand. We simply cannot build enough schools or train enough teachers to meet the need.

We are at a pivotal moment where an alternative, radical approach is necessary. We need an approach that will eliminate the existing barriers to a quality learning experience, where the seeds of innovation can be imparted to every child, regardless of location or economic status.

The **\$15M Global Learning XPRIZE** challenges teams from around the world to develop open source and scalable software that will enable children in developing countries to teach themselves basic reading, writing and arithmetic in 18 months. Our goal is an empowered generation that will positively impact their communities, countries and the world.

The \$15 million dollar prize will be awarded as follows:

Five finalists: \$1 million each will be awarded by the Judging Panel to teams with the best proposed solutions.

Grand prize winner: \$10 million will be awarded to the top performing team solution based on the field testing of the teams.

The learning solutions developed by this prize will enable a child to learn autonomously. And, those created by the finalists will be open sourced for all to access, iterate and share. This technology could be deployed around the world, bringing learning experiences to children otherwise thought unreachable, who do not have access to quality education, and supplementing the learning experiences of children who do.

The impact will be exponential. Children with basic literacy skills have the potential to lift themselves out of poverty. And that's not all. By enabling a child to learn how to learn, that child has opportunity — to live a healthy and productive life, to provide for their family and their community, as well as to contribute toward a peaceful, prosperous and abundant world.

ADULT LITERACY

PRIZE DEVELOPMENT
WORK FUNDED BY THE
BARBARA BUSH FAMILY FOUNDATION

GRAND CHALLENGE

More than 32 million adults in the U.S. lack basic literacy skills. That's 14 percent of the adult population. An additional 21 percent of American adults read below a fifth-grade reading level. These literacy rates have seen negligible change over the past decade, suggesting that new breakthroughs are needed in addressing this enormous challenge. The benefits of literacy are clear: improved maintenance of health and family, economic security, academic success, and increased social and civic participation. The population of adult literacy learners is diverse and may require radical new approaches to instruction, assessment and access.

DRAFT GUIDELINES

The Adult Literacy XPRIZE is comprised of two competitions: the Team Solutions competition and the Cities Deployment competition. The Team Solutions competition will award a Grand Prize and bonus prizes to teams that develop software-based solutions for existing mobile devices that result in the greatest improvement in literacy skills among

native and non-native English speakers who read at or below the equivalent of a third-grade reading level. The Cities Deployment competition will award a Cities Prize to the city that encourages the greatest percentage of its low-skilled population to download and use the successful solutions from the Team Solutions competition.

The Adult Literacy XPRIZE will inspire educators, engineers, innovators, game and application developers, and technology experts from around the world to develop a new generation of adult literacy learning tools and methods that are highly scalable, non-place-based, cost-effective and customizable. This fundamental paradigm shift in the way we approach adult learning will catalyze new approaches to adult literacy instruction and will prove that mobile technology solutions can overcome the market failures faced by adults with low literacy. These tools and methods will radically improve literacy skills in adults across the U.S., thereby strengthening its families, communities and society.

Change the world.
Contact us to find out how you can help launch this XPRIZE.



A.I. XPRIZE PRESENTED BY TED

GRAND CHALLENGE

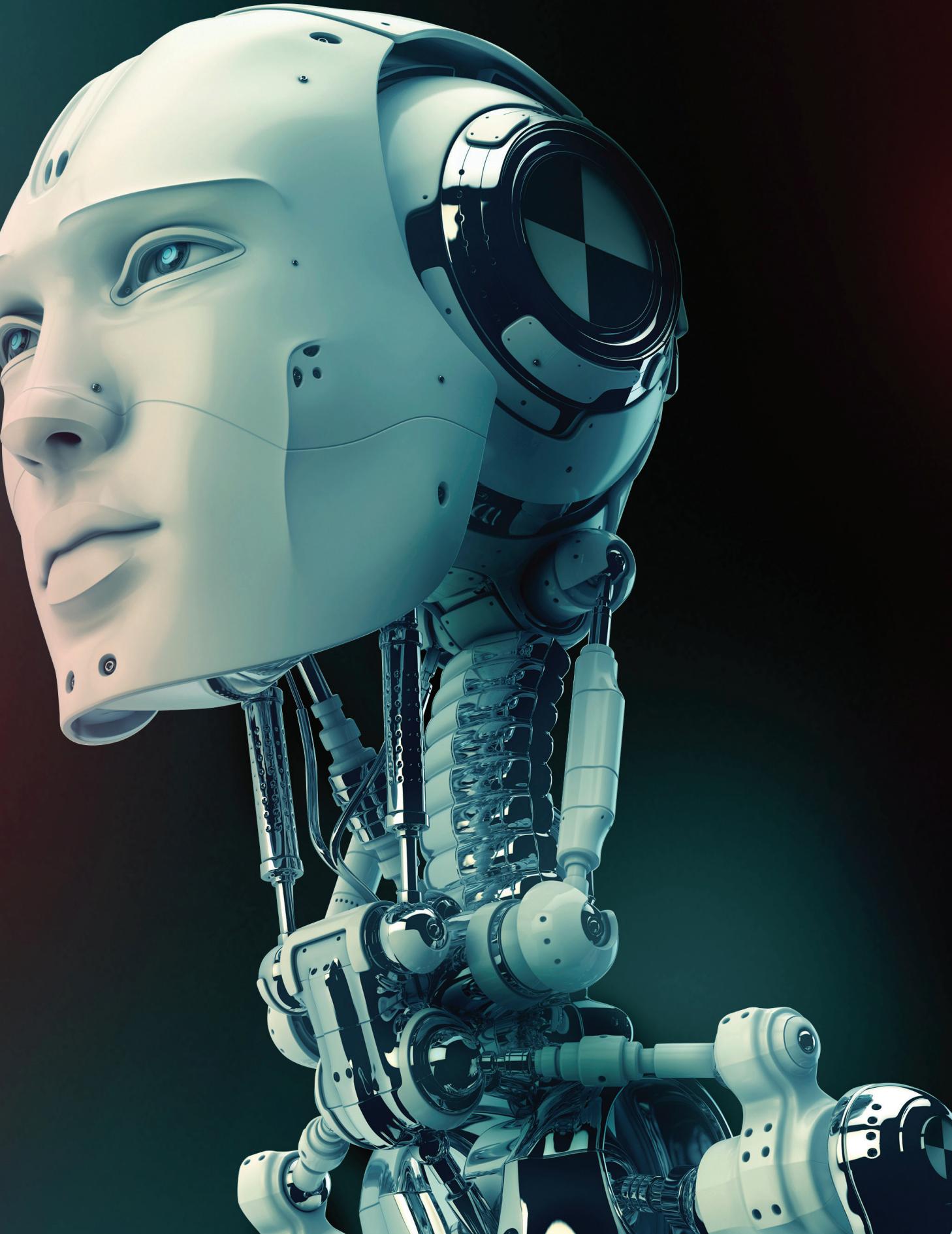
While machine learning and artificial intelligence (A.I.) have had some major advances within the past few decades scientists and programmers still struggle with fundamental problems in the areas of vision, language and common sense. While the Turing test proved to be a good start to unlocking the potential of A.I. technology, there is still a long way to go. If a true A.I. was developed, it would have the ability to make radical breakthroughs in just about every field of study as well as change the way we interact and view machines.

DRAFT GUIDELINES

Two current prize concepts are being considered to demonstrate proficiency and real-world viability of the AI XPRIZE. The first concept focuses on an A.I. briefing the audience on information recently received in real time at a TED talk, while the second would focus on a human/A.I. team to present answers to an urgent scenario.

1. The winning team will demonstrate collaboration and the ability to communicate between an A.I. and a human at a World's Fair event using an open sourced code. The A.I. must demonstrate the ability to brief an audience by providing a summary and evaluation on a TED talk on an "idea worth sharing".
2. The winning team will enable a human/A.I. collaboration to recommend actions to resolve an urgent world crisis. The A.I. must develop a briefing of a recent crisis within 1 hour and present in a town hall format. The winning technology will be able to summarize pros and cons of a particular intervention, answer open-ended questions and cite relevant cases from a related topic. The A.I. will be judged by the crowd and a group of A.I. experts.

Change the world.
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ENVIRONMENT COMPETITIONS



CARBON

PRIZE DEVELOPMENT WORK FUNDED BY
TRI-STATE GENERATION AND TRANSMISSION ASSOCIATION
AND CANADA'S OIL SANDS INNOVATION ALLIANCE.

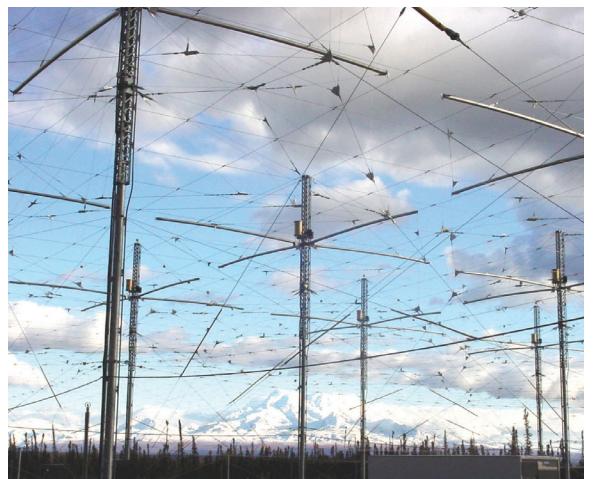
GRAND CHALLENGE

Energy drives the global economy. Today, and for decades to come, the most affordable and abundant energy will continue to come from fossil fuels, which are the largest contributor to global CO₂ emissions. The Carbon XPRIZE will challenge the world to reimagine what we can do with CO₂ emissions by incentivizing the development of technologies that convert CO₂ into valuable products.

DRAFT GUIDELINES

The winning team will convert the most CO₂ into one or more products with the highest net value. Finalists will demonstrate their technologies at a power plant under real-world conditions.

*Make the Impossible Possible.
Support the launch of this XPRIZE.*



WEATHER CONTROL

GRAND CHALLENGE

Efforts to control weather have been relatively limited, and results, which are heavily reliant on weather conditions and cloud composition, are marginal at best. Innovations in this area will produce rain for farmers and reduce crop damaging hail, increase precipitation in areas affected by droughts, fill water reservoirs, and stave off the most harmful consequences of increasingly deadly hurricanes and tornadoes. The goal of this prize is to create radical breakthroughs in weather control technology without adversely impacting the long-term global or local climate: hotter days and droughts, flooding, more severe storms, hurricanes, tornadoes and hail.

DRAFT GUIDELINES

The winning team will develop a new technology, or modify an existing approach, that clearly demonstrates at least one measureable change in weather, such as increasing rainfall or mitigating fog in a 100-square-mile area. Baselines will be determined prior to trial initiation.

JURASSIC PARK

GRAND CHALLENGE

The rapid loss of species occurring today is estimated to be up to 10,000 times higher than the natural extinction rate, leading to a serious biodiversity crisis. Unlike the mass extinction events of geological history, the current extinction challenge is one for which a single species appears to be almost wholly responsible. The goal of this XPRIZE is to find a safe, repeatable, and reliable method for bringing back extinct species and rebuilding a population.

DRAFT GUIDELINES

The winning team will bring back an extinct species and have the resulting organism remain alive for a period of at least six months. All competing teams must select the extinct species that they wish to bring back to life. The species must have been extinct for at least 10,000 years and be a vertebrate weighing at least 2 ounces. A set of expert judges will be used to evaluate the accuracy of team claims.

WASTE/LANDFILL

GRAND CHALLENGE

Waste is a huge global problem. In 2012 alone, Americans generated about 251 million tons of trash. Current methods of disposal are not sustainable. One current method for getting rid of waste is a landfill. Landfills however take up large spaces and sometimes leak and can lead to contaminated water and soil. Today, only through better recycling and composting methods can the world expect to see improvement.

DRAFT GUIDELINES

The winning team will develop a solution that can increase and accelerate the rate of both organic and nonorganic decomposition in a given landfill by 50 percent in a safe and environmentally friendly way.

FERTILIZER

GRAND CHALLENGE

Hunger affects more than 850 million people, mostly in developing countries where the majority of population growth will occur over the next 50 years. For a new green revolution to occur, developing country farmers need access to affordable fertilizer. These farmers pay up to four times the world average for fertilizer due to geographic and infrastructure constraints. This prize will incentivize solutions that address this challenge and reduce world hunger.

DRAFT GUIDELINES

The winning fertilizer solution will be scalable, environmentally benign and affordable. It will be composed of inputs readily available in developing countries, suitable for tropical soils, and affordable to the average farmer. The solution will be easily applied, simple to use, storable for at least two years without loss of nutrients, and improve soil health with increased nutrient content, water holding capacity, pH balance, and oxygen flow to the roots.



WILDLIFE TRACKING & POACHING PREVENTION

GRAND CHALLENGE

The World Wildlife Fund estimates that the wildlife trafficking industry is annually worth nearly \$10 billion. The illegal wildlife trade is booming as poachers and traffickers now hack into GPS tracking devices located on endangered animals to more easily track and kill protected animals, and sell those animals and their parts illegally on the Internet using code words to hide their activities from law enforcement. Many protected species are on the brink of extinction primarily because of wildlife trafficking. For example, there are only 2,500 Bengal tigers left in the wild, and those tigers sell for upwards of \$50,000 each on the black market. The poaching of rhinos for their horns has reached crisis levels, growing from six poached rhinos in 2001 to over 1,116 in 2014 in South Africa alone. Another high-profile animal, the African elephant, is under increased threat from poachers – over 100,000 elephants have been poached for their ivory in the last three years. Central Africa has lost 64 percent of its elephants in the last decade. While policy, regulatory, enforcement, and funding issues all play a significant role in this crisis, improved technologies for tracking and protecting animals are a key piece of the solution.

DRAFT GUIDELINES

The Wildlife Tracking and Poaching Prevention XPRIZE will incentivize teams to develop low-cost, easily deployable, and highly reliable tracking devices for protected species that contain the highest levels of cybersecurity to prevent hacking. To reduce the stress on animals that are tagged for tracking, the teams' solutions must be small, lightweight (less than 5 kg for elephants and rhinos, and 2 kg for large cats, for example), and nonintrusive to the animals' natural behaviors. The solutions must provide active location data (via GPS, very high frequency (VHF) radio, or other) in a highly secure manner to prevent hacking by poachers and traffickers. The level of cybersecurity provided by the tracking systems for data in transit and stored data will be the key criteria for determining the winning team. The solutions are expected to integrate innovative approaches to access control and cryptography, among other security measures. The solutions will be field tested using existing conservation programs, most likely in Africa or India. The Wildlife Tracking and Poaching Prevention XPRIZE will bring together conservationists and computer specialists, including hackers to preserve the world's most majestic natural resources and preserve our natural heritage for future generations.

*Make the Impossible Possible.
Support the launch of this XPRIZE.*

ENERGY COMPETITIONS

REVOLUTIONARY BATTERY

PRIZE DEVELOPMENT
WORK FUNDED BY PRIVATE DONORS.

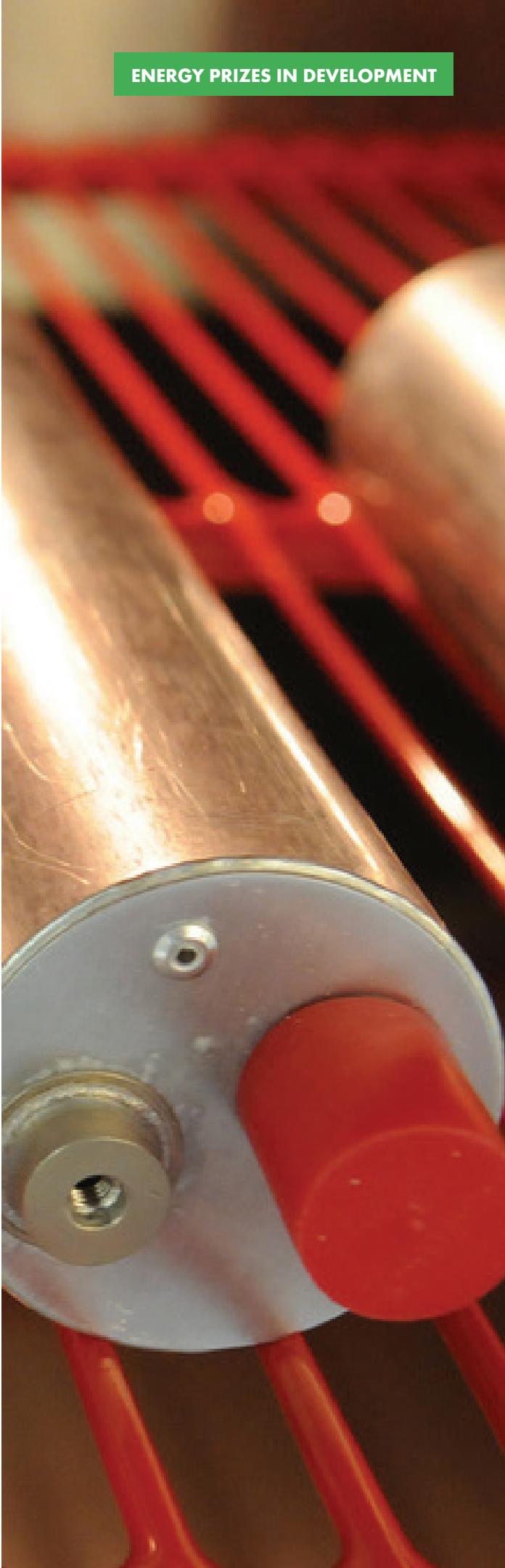
GRAND CHALLENGE

Technologies with the potential to change the world from EVs, driverless cars, and drones to wearable health devices and personal robots all depend on lighter, smaller, longer lasting batteries. This XPRIZE is designed to incentivize a transformational improvement in battery energy density while achieving the high cycle life necessary for the most innovative applications. It's time to transform how we power everything!

DRAFT GUIDELINES

Develop a battery cell that achieves revolutionary improvement in energy density (at least 500 Wh/kg) and significant cycle life (250 cycles). The competition will keep barriers to entry low in order to incentivize new players and ideas, and teams will be judged based on performance in robust laboratory tests.

Partner with XPRIZE and support this competition.
Contact us to find out how.



WIRELESS POWER TRANSMISSION

GRAND CHALLENGE

The goal of this prize is to create radical breakthroughs in wireless transmission technologies that will transform the way we collect and distribute energy, dramatically increase the availability of affordable carbon-free energy, and reduce our dependence on fossil fuels. Innovations in this area will expand the supply of clean energy, remove the need for land dedicated to traditional transmission lines, and positively impact global climate change.

DRAFT GUIDELINES

The winning team will be able to beam wireless power to a high-altitude aircraft at an altitude above 50,000 feet. The winner must maintain the aircraft at altitude and on station for seven days using ground-based power beamed wirelessly to the aircraft.

RENEWABLE ENERGY STORAGE AND DISTRIBUTION

GRAND CHALLENGE

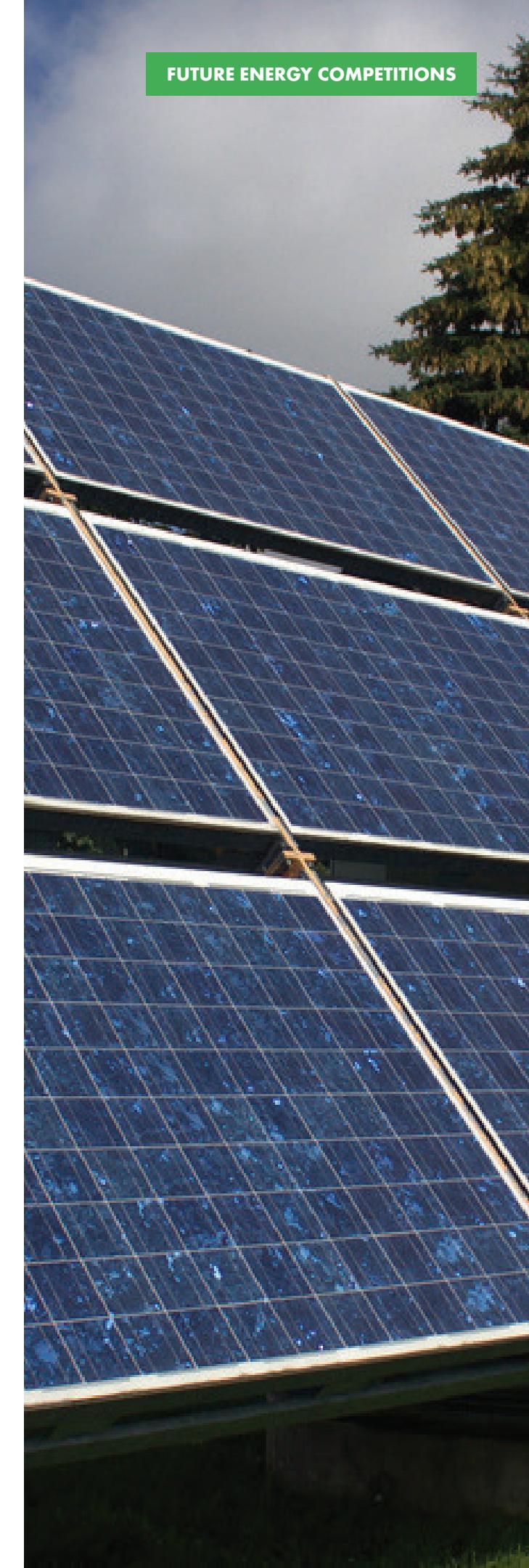
Nearly 2 billion people throughout the world live off-grid. Access to energy plays an integral role in improving economic productivity and the dissemination of health, education, and communication services. The goal of the Solar Storage and Distribution XPRIZE is to provide power to the millions living off-grid by achieving close to grid parity in the price and distribution of off-grid solar installations.

DRAFT GUIDELINES

The winning team will decrease costs and radically increase capacity of technology to capture, store, and distribute solar energy at a grand scale.

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GLOBAL DEVELOPMENT COMPETITIONS



WASTE TO WEALTH

GRAND CHALLENGE

Solid waste generation rates are rising fast, on pace to exceed 11 million tons per day by 2100. That is triple what we currently produce today. Over 14 billion pounds of garbage are dumped into the ocean every year. Most of it is plastic. The global cost of dealing with all that trash is also rising from \$205 billion a year in 2010 to \$375 billion by 2025, with the sharpest cost increases in developing countries. These results hold serious consequences for public services, government budgets, and the space consumed by landfills.

DRAFT GUIDELINES

The winning team will develop a portable, nonpolluting, closed-loop system technology that:

1. Efficiently segregates household waste into organic and toxic waste, and recyclable waste streams.
2. Generates at least one form of energy, and
3. Creates a minimum of three reusable raw materials.

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WOMEN'S SAFETY

GRAND CHALLENGE

Women's safety is one of the most widespread and relevant issues in India today. Two out of three women in the country have suffered sexual or physical violence. A woman is raped every 20 minutes, yet less than 10 percent of these crimes are reported. The world is exasperated with the Indian government's lack of response. While many successful examples exist of private-sector-driven solutions to gaps in government provisions, a system is necessary to help keep women safe in the world's largest democracy.

DRAFT GUIDELINES

The winning team will develop a women's security technology that generates the fastest response time to aid a woman in distress. At a minimum, the winning solutions must:

1. Instantly send a distress signal to a woman's emergency contacts and/or the police when triggered.
2. Track a woman's location and movements through GPS, informing her emergency contacts of her whereabouts.
3. Capture and live-stream images and sound to a woman's emergency contacts to aid her rescue, as well as the prosecution of her attacker.



MICRONUTRIENTS DEFICIENCY

GRAND CHALLENGE

A staggering 2 billion people worldwide suffer from micronutrient deficiency, which is perhaps the most prevalent yet addressable aspect of world hunger. Micronutrients are vitamins and minerals (e.g., iodine, iron, vitamin A) that help prevent brain damage and forestall disease. A group of Nobel laureate economists ranked micronutrient interventions as the single most cost-effective way to combat global poverty. The Micronutrients XPRIZE will provide the world's hungry with the means to stay nourished and healthy.

DRAFT GUIDELINES

The winning team will develop the supplementation and fortification methods necessary to durably bind micronutrients, such as iron to flour and/or staple foods, in a way that survives storage, washing and cooking temperatures.

Want to make these prizes a reality? Contact us to see how you can become a prize sponsor.



NUTRITION ABUNDANCE

GRAND CHALLENGE

With the growth of the world's population, and the negative effects of climate change, the demand for food will become increasingly greater, putting our food security at risk. With nearly 70 percent of the population living in urban areas by the year 2050, the distance between food sources and consumers will lengthen, further jeopardizing our food security. The goal of the Food Security XPRIZE is to enable physical and economical access to sufficient, safe, nutritious and sustainable food.

DRAFT GUIDELINES

Multiple prize concepts can be developed to help ensure food security. Depending on the prize designed, the winning team will a) Produce the highest edible calorific output grown on a given piece of arid desert land using less than a TBD amount of water, fertilizer and other inputs, b) Create a "farm in a box" that provides enough caloric yield daily for a family of four using less than TBD water and other inputs, costs less than a TBD amount per year, and has a footprint of less than one square meter, or c) Create a system that produces and delivers 10 crucial, predetermined micronutrients for human health in a sustainable manner at a cost less than TBD.

Contact us to find out how you can help launch this XPRIZE.

URBAN FARMING

GRAND CHALLENGE

By 2050, the world population is anticipated to reach 9.1 billion, with nearly 70 percent of the population living in urban areas. In order to feed this growing, more urban population, it is estimated that food production will need to increase by 70 percent. With finite fertile ground for agricultural cultivation, significant breakthroughs in high-efficiency crops are much needed. We will require healthy, sustainable crops that produce higher yields more quickly and more often, and are close to the end consumer. Vertical farming offers a solution by bringing crops closer to population centers, using marginalized land, and adding the third dimension of height.

The goal of the Urban Farming XPRIZE is to remove some of the current significant barriers, including light requirements, high energy demand and electricity costs, high capital costs, and light, greenhouse gas, water and nutrient pollution.

DRAFT GUIDELINES

The winning team will create an urban farming system and produce a TBD yield of a predetermined set of crops from supplied standard seeds using less than TBD amounts of electricity. The system must function within 20 miles of an urban center of a 1-million-person city and utilize less than TBD acres of land.

*Partner with XPRIZE and support this competition.
Contact us to find out how.*





NO-SOIL AGRICULTURE

GRAND CHALLENGE

As the world has continued to grow in population, the agriculture industry has not been able to keep up with the population needs. According to the UN Food and Agriculture Organization, food production will have to increase 70 percent by 2050 to feed an additional 2.3 billion people while fighting poverty and hunger, effectively using limited natural resources and adapting for climate change. Issues such as water scarcity, soil degradation, climate change, lack of agricultural training, and energy required for this type of food production have caused our current use of soil based agriculture to become insufficient. A new type of agriculture needs to be created to provide a more sustainable resource that meets the needs of the growing world population.

DRAFT GUIDELINES

The winning team will create a cost-effective and safe way to sustainably grow food globally to support 100 people for TBD amount of time, regardless of soil, as well as address the issues of energy use, scalability, climate change, water scarcity, and ease of implementation.

*Want to make this XPRIZE a reality?
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WATER STEWARDSHIP

GRAND CHALLENGE

A number of challenges prevent us from accurately, efficiently, and affordably monitoring and measuring water – our earth's most vital resource. Key gaps in measurement and monitoring include the need for more granular and decentralized water data, affordable water quality monitoring systems, accurate water consumption and recharge data, and real-time data on the functionality of water sources (e.g., hand-pumps and bore-wells). While various government bodies and bilateral organizations have made progress, a lack of effective, advanced, and economical technologies have limited the extent of data collection and dissemination. A Water Stewardship XPRIZE could revolutionize the means by which water data is gathered, analyzed, and communicated to promote improved water conservancy and protection.

DRAFT GUIDELINES

A Water Stewardship XPRIZE will require teams to develop a hand-held device that senses the quantity and quality of water resources available in a local area, sends information to a central database, and can share key inputs with stakeholders and consumers. The device should suggest a usage or purification method based on contaminants in the water sample and allow for collected data to be easily retrievable by simple, cost-effective communication channels, such as SMS. A Water Stewardship XPRIZE would provide access to granular and reliable water-related data that would ultimately help individuals, communities, and government to understand and practice better stewardship of available water.

Contact us to find out how you can help launch this XPRIZE.





WATER

GRAND CHALLENGE

Globally, over 780 million people are estimated to lack access to clean water. More than 1 billion people currently live in water-scarce regions, and as many as 3.5 billion could experience water scarcity by 2025. Contamination of water resources has also contributed to a significant decline in the availability of clean water. Over 3.4 million people from across the world are estimated to die each year from water-related diseases. In order to augment currently available water resources, we need to tap into alternate resources like atmospheric extraction of water, which can potentially provide water where it is unavailable or inaccessible, by extracting it directly from the air around us. While technologies exist today for atmospheric water extraction, adoption has been poor globally due to large capital and operating costs and operational limitations. Technological innovation in this space will lead to the development of an atmospheric extraction technology that is a significant improvement over existing technologies in terms of cost, efficiency, use of renewable energy and compactness. The exponential increase in affordability and efficiency can greatly boost adoption, and create impact where it is most needed.

DRAFT GUIDELINES

The Water XPRIZE will require teams to develop a community-scale atmospheric water technology that produces at least TBD liters of clean water in 24 hours at the lowest total energy use. The Water XPRIZE aims to fundamentally transform our relationship with water by expanding our understanding of where it comes from and how to tap into it. XPRIZE hopes this prize will demonstrate to the world that access to clean drinking water is a basic human right that can finally be realized.

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FINANCIAL INCLUSION

GRAND CHALLENGE

In the early 1990s microfinance gained traction as a means to provide loans to economically disadvantaged or low-income entrepreneurs and small businesses lacking access to credit. Over time, microfinance has come to include other financial services such as insurance, savings, and transfers, and has expanded into more complex and inclusive systems. These financial services have not only helped the poor to build businesses, but have also assisted them during times of personal emergency and natural or man-made disasters. Although microfinance institutions (MFIs) have demonstrated growth over the past decade with the number of global borrowers growing annually between 13 percent and 15 percent, two-thirds of adults in the world still do not have access to a bank account. A Financial Inclusion XPRIZE would provide poor and vulnerable populations with greater household welfare, and support economic growth.

DRAFT GUIDELINES

The Financial Inclusion XPRIZE will require that teams build a financial model as an alternative to microfinance that also provides economically disadvantaged individuals, households, and businesses with access to a range of financial services. The winning solution will benefit a significant number of individuals, households, and businesses across TBD geographic regions in order to demonstrate widespread accessibility and scalability. Solutions will also be judged according to their referral rates and their ability to reduce transaction costs and interest and default rates. A Financial Inclusion XPRIZE will ultimately help spur innovative solutions that provide accessible, equitable, and sustainable financial security for a more prosperous global society.

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AIR POLLUTION

GRAND CHALLENGE

It is estimated that more than 1 billion people are exposed to outdoor air pollution annually. Urban air pollution is linked to approximately 1 million premature deaths and 1 million prenatal deaths each year. Many cities in the world, including some expected to be among the most polluted, do not collect information or report on its outdoor air quality. Rapid urbanization has resulted in increasing urban air pollution in major cities, especially in developing countries. Over 90 percent of air pollution in cities is attributed to vehicle emissions which settle near to the ground and where people and animals breathe. The Environmental Protection Agency estimates that the air toxics emitted from cars and trucks account for half of all cancers caused by air pollution. There are more than 500 million cars in the world and by 2030 the number will rise to 1 billion. This means pollution levels will more than double.

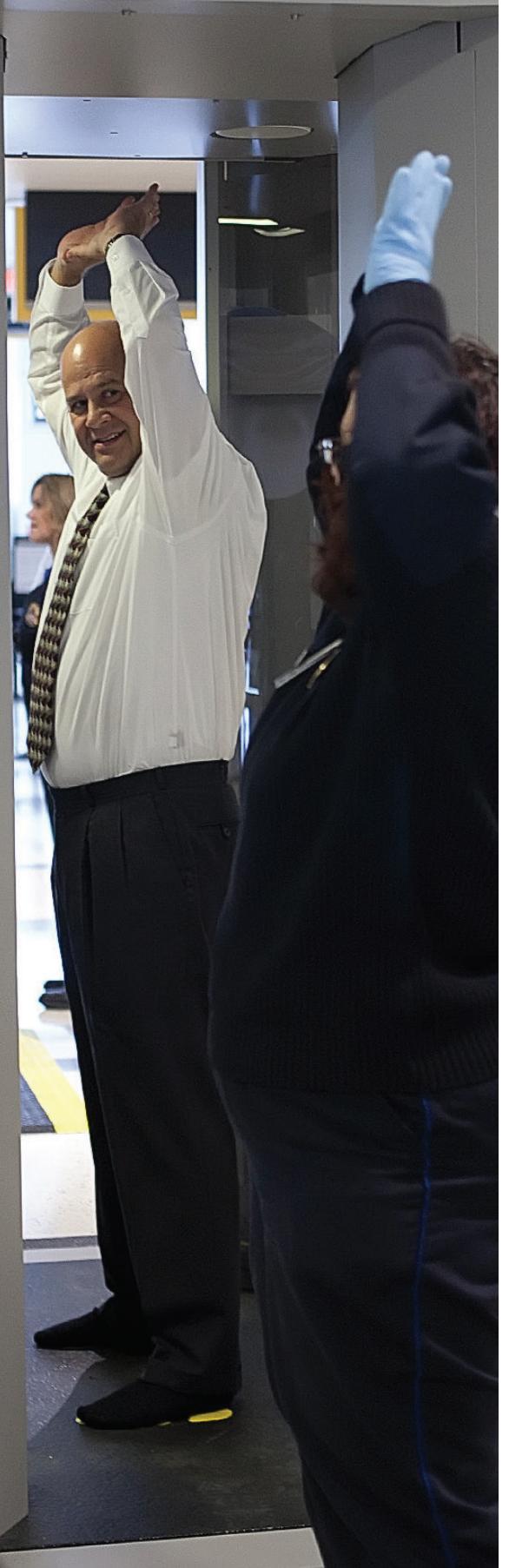
DRAFT GUIDELINES

The winning team will create a technology or system that captures TBD amount of particulate matter in the air specifically sourced from vehicular emissions within a TBD time period. Solutions must be capable of capturing harmful emissions from all commercial fuels, including diesel.

Contact us to find out how you can help launch this XPRIZE.



SECURITY COMPETITIONS



SECURITY SCREENING

GRAND CHALLENGE

As a result of the 9/11 terrorist attacks, the U.S. faces a new reality in which every airline passenger, train, car, and piece of cargo poses a potential threat. Magnetometers (commonly known as "metal detectors") no longer ensure safety, and new security measures require citizens to sacrifice convenience and a certain amount of personal freedom. Breakthroughs are needed to transport people and cargo more safely, efficiently and conveniently. A prize could help develop a means to detect potential security threats in a noninvasive way without interrupting the flow of traffic, events, or commerce.

DRAFT GUIDELINES

The winning team will design technology that protects the privacy of air and rail passengers, as well as attendees of public events, while ensuring safety and security. The technology must also avoid disrupting the normal flow of travel or public events. The winning solution will be capable of detecting metal weapons (knives, guns, etc.), illicit chemicals, or explosives with 100 percent accuracy at a rate of "x" people per minute – without human intervention. Furthermore, individuals being screened must be able to keep on all of their clothing, including jackets, belts and shoes.

*Want to make this XPRIZE a reality?
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BIOTERRORISM

GRAND CHALLENGE

Infectious diseases have a range of negative effects on both global health and public safety, accounting for more than 13 million deaths per year. Every hour, 1,500 people die directly or indirectly from an infectious disease. More than half of those losing their lives to infectious disease are children under the age of 5, with the remaining casualties predominantly working-age adults. The need to rapidly and accurately diagnose or predict infection is clear.

Threats posed by infectious pathogens are evident and growing, coming from diseases in the diverse environments in which we live. They also present as novel emerging outbreaks, illustrated by the 2003 SARS epidemic and the 2009 H1N1 ("swine flu") outbreak, as well as through intentional releases such as the 2001 anthrax attacks. We must rapidly develop and deploy solutions to protect the world from these threats as soon as possible. A prize could help operate breakthroughs in our ability to accurately and quickly diagnose or predict such outbreaks or attacks which can save millions of lives.

DRAFT GUIDELINES

The winning team will develop a device capable of quickly and accurately assessing a specific virus or bacteria pathogen from a known panel of 20 infectious agents. The diagnostic device must also be able to ascertain the extent of the pathogen exposure and determine if medical treatment is necessary. Additionally, it should identify if an infectious agent is transmissible to humans. The device should include sample preservation and storage for subsequent confirmatory analyses.

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LIE DETECTOR

GRAND CHALLENGE

In the United States, nearly 10,000 people are wrongly convicted of crimes each year. With advancements in brain imaging and the possibility of integrating deep brain sensing into lie detector technologies, we could transform our legal system by enabling noninvasive “truth finding” technologies – helping free those wrongfully convicted and identify the actual culprits. Such technologies would also revolutionize the intelligence fields and defense strategies by facilitating noninvasive interrogation techniques.

DRAFT GUIDELINES

The winning team will develop a noninvasive, brain-sensing lie detector test that demonstrates 100 percent accuracy on a test panel of 100 individuals. Bonus points will be awarded to teams that demonstrate additional mind-reading capabilities.



FAIR VOTING



INVISIBILITY

GRAND CHALLENGE

By absorbing, reflecting, and refracting light waves, today’s materials have given rise to very early stage wave-cloaking technologies, such as fabrics that make an object invisible to microwaves. However, these technologies are not yet advanced enough to make objects invisible to the naked eye or to refract seismic or sound waves. The possible uses for such advanced technologies are endless, from protecting buildings from an earthquake’s seismic waves to creating visually open automobiles without blind spots to rendering individuals wearing special clothing invisible in daylight.

DRAFT GUIDELINES

The winning team will develop a wave-cloaking technology that hides an object the size of an adult human, rendering the object invisible to the naked eye in daylight. Technologies that are lightweight and flexible will garner additional points.

Bonus prizes will be given to technologies that refract sound waves.

Want to make these prizes a reality? Contact us to see how you can become a prize sponsor.

GRAND CHALLENGE

In a world of ATMs and online banking that can provide reliable and secure records, blood is still shed and nations are upended over the simple counting of votes in countries ranging from the U.S. to Tunisia. The creation of an accurate, verifiable voting technology would provide a crucial advancement in the promulgation and sustainment of democracy.

DRAFT GUIDELINES

The winning team will create a voting system that is accurate, highly scalable, confidential, verifiable by an independent third party, and able to inform voters that their votes were correctly counted.



EARTHQUAKE PREDICTION

GRAND CHALLENGE

In the last 10 years alone, earthquakes have resulted in more than 750,000 deaths and billions of dollars in destruction, ranking among the most devastating natural disasters worldwide. And decades of work in earthquake prediction – from crustal instrumentation and satellite monitoring to radon emissions studies and observations of animal behavior – have to yield demonstrable results. However, the “era of big data” is opening up new avenues for mining diverse information sources for deeply hidden results.

DRAFT GUIDELINES

The winning team will be the first to predict three or more earthquakes of magnitude 6.0 or larger on the Richter scale, with advance warning of at least 12 hours and accuracy of better than 200 kilometers in locating the epicenter. False positive rates, within a +/- 14-day window of the predicted earthquake, shall not exceed 50 percent.

*Change the world.
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CYBERSECURITY

GRAND CHALLENGE

Cybercrime has now become a business that exceeds a trillion dollars a year in online fraud, identity theft, and lost intellectual property, effecting millions of people around the world, as well as countless businesses and the governments of every nation. Current threats include economic transactions, power grid, air traffic control, and secure facilities and as newer technologies continue to develop, threats will expand to include self-driving cars, unmanned aerial vehicles, and building infrastructure.

Major technology trends, including massive analytics, cloud computing and big data, could create up to \$21.6 trillion in value for the global economy. However, if attacker sophistication outpaces defender capabilities resulting in more destructive attacks a wave of new regulations and corporate policies would slow innovation, and negate its global economic impact. A prize in cybersecurity could demonstrate its value for the global economy.

DRAFT GUIDELINES

Teams will register as either a hacker or defender and compete in different events and scenarios, such as financial institutions, power grid, or a high security facility. Teams will compete to either “hack” or “defend” these targets for up to 30-60- or 90-day increments, with the amount of time taken to “hack” or “defend” being rewarded with incrementally larger prize purses.

*Partner with XPRIZE and support these competitions.
Contact us to find out how.*





"IPP was the best - no other has come close - learning experience I have had in my working career. I felt challenged, intimidated, invigorated and mostly optimistic."

Steve Elfman
President, NOW at Sprint

"IPP is a fantastic experience. SAP is proud to be part of this partnership."

Jonathan Becher
Chief Marketing Officer, SAP

IF YOU AREN'T IN A POSITION TO HARNESS EXPONENTIAL TECHNOLOGIES AND BREAKTHROUGH BUSINESS MODELS, YOU NEED TO BE.

IPP is a unique innovation initiative bringing together the Fortune 500 to meet and learn from Silicon Valley's brightest technologists, entrepreneurs, innovators and business strategists to create breakthrough business models harnessing the power of exponential technologies and the wisdom of the crowds.

Do you want to develop a road map and "over the horizon" view of how accelerating technologies in development today and coming to market in the next two to five years will impact your business?

Join us at IPP and learn how our corporate partners like Coca-Cola, Hershey's, Sprint, SAP and others are leveraging IPP to innovate. We meet twice per year in Silicon Valley in highly curated partnership sessions, and promise to open your eyes to a future of exponential possibilities.

Learn more at www.ipp.biz.

IPP

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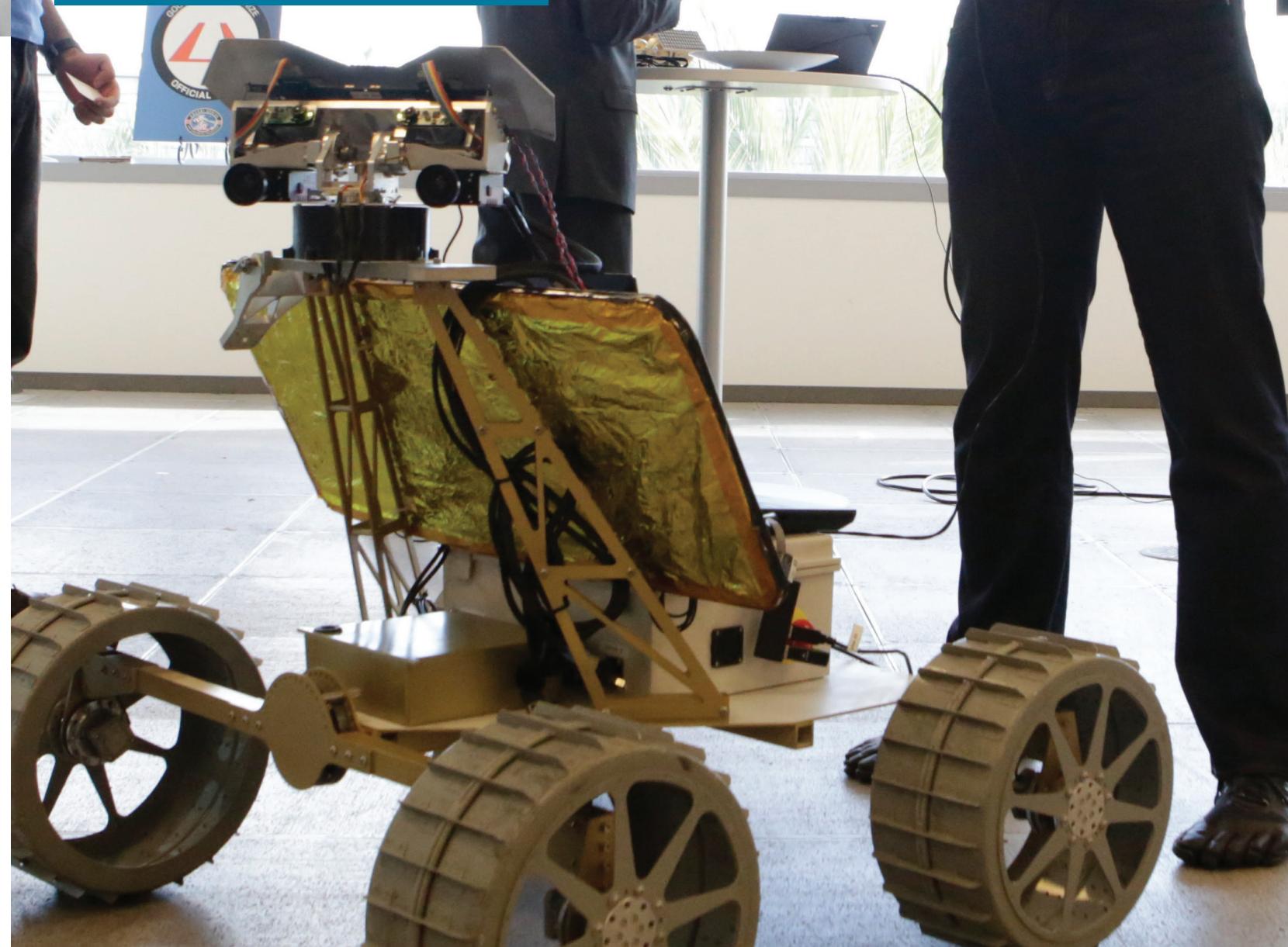
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**XPRIZE®
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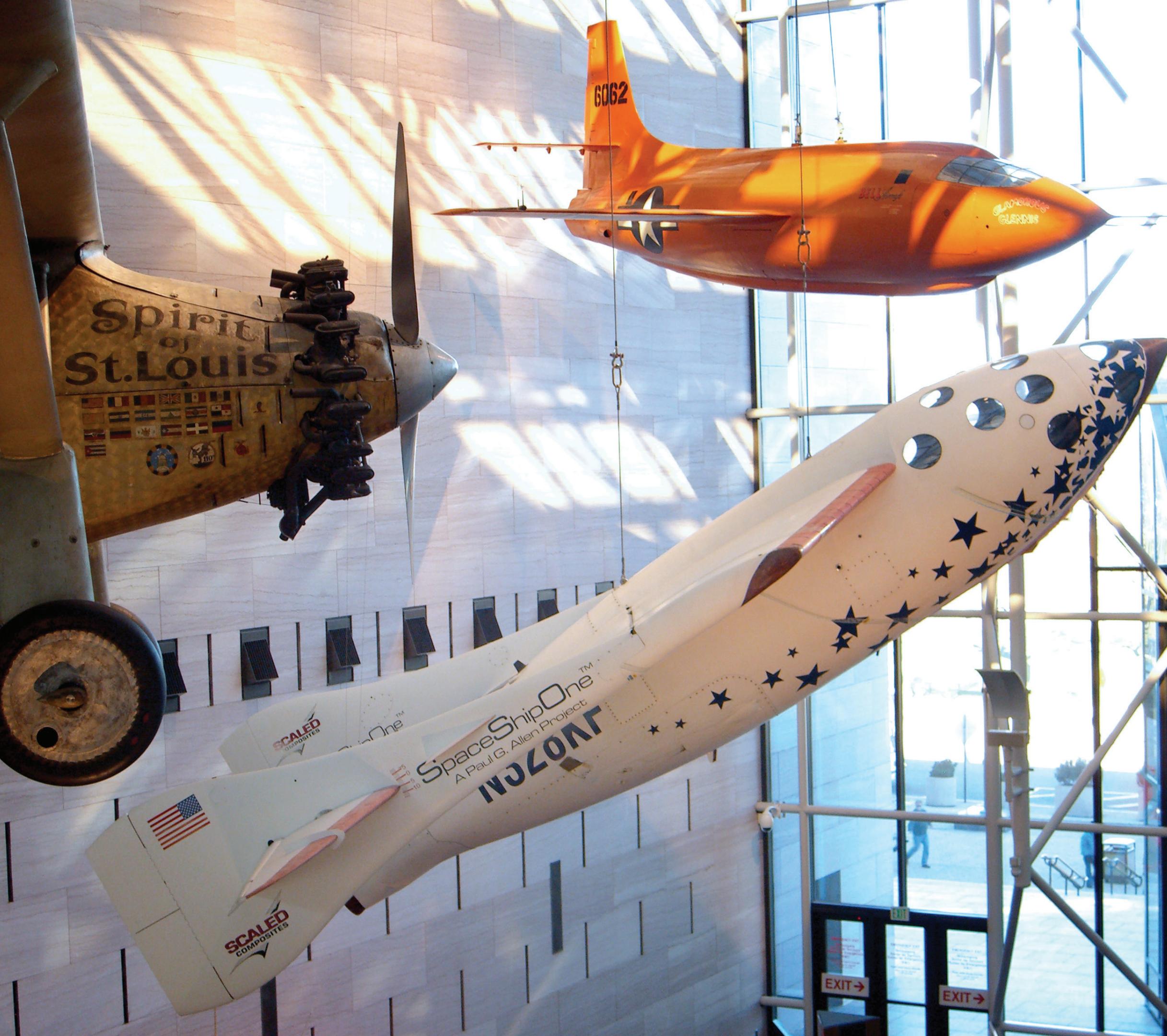
The XPRIZE Adventure + Innovation Experience is a uniquely curated trip built around specific themes such as "Exploration - Oceans and Space" and "Exponential Technologies: Synthetic Biology, Robotics and 3-D Printing" to learn about cutting edge capabilities. It is an immersive, unprecedented learning opportunity that brings the work of XPRIZE to life.

Participants enjoy a fun-filled, experiential "field trip," with exclusive access to life-changing experiences and industry leaders. Together, they will aid XPRIZE in conceiving powerful competitions for the future.

For more information please contact alliances@xprize.org.



XPRIZE MAKES THE IMPOSSIBLE POSSIBLE



Sometimes it's about doing something that has never been done before. Like launching a \$2 billion private space industry. Or creating oil cleanup technology that achieves what no one else could during the Deepwater Horizon crisis.

Sometimes it's about creating a medical device that will bring down impossibly expensive healthcare costs. Or creating an energy-efficient car that challenges an entire industry to get moving already.

Sometimes it's about convening the right players to moving forward technology that is stuck inside political gridlock, corporate P&Ls or traditional thinking.

And sometimes it's about doing something no one has ever thought of before.

The day before something is a breakthrough, it's a crazy idea. Well, we incentivize the crazy ones. The visionaries who know no bounds or limitations. The ones who live for the thrill of the challenge and the challenge to make the world a better place.

Doctors. Artists. Astronauts. Athletes. Engineers. Scientists. Fishermen. Tattoo Artists. Kids.

We give voice to a world facing impossible odds, and we fashion competitions that provide the help needed to overcome those odds to accelerate positive futures.

Make the impossible possible.