SingularityU Greece Summit
November 19-20 2018 The Athens Megaron Concert Hall
We are all time travelers journeying together into the future. But let us work together to make that future a place we want to visit. Be Brave. Be Determined. Overcome the Odds. It can be done...

Stephen Hawking
SingularityU Greece Summit brings the world’s leading speakers and experts on exponentially accelerating technologies together with Greek business leaders of today and tomorrow, giving us the knowledge and insight we need to compete and win in an exponentially changing world.
SU Greece Summit in pictures
SU Greece Summit in pictures
SU Greece Summit in pictures
SU Greece Summit in pictures
SU Greece Summit
Sponsors Alley

ALPHA BANK
Facts & numbers

**NO. OF ATTENDEES:**

1327

**GENDER RATIO ON STAGE MALE/FEMALE:**

19 SPEAKERS in total, of which 13 MALE, 6 FEMALE

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How likely is it that you would recommend Singularity U Summit to a friend?

**Score:**

4,8 out of 5,0
Livestream viewers: approximately 1700 people, in 11 schools, 10 universities, and 5 strategic partner locations.

Other Facts & numbers

- 440+ companies
- 30+ universities

represented in the attendees
Selection of Media Coverage

Singularity University Greece Summit website

ekathimerini.com
Selection of Media Coverage

16 page insert Kathimerini
Selection of Media Coverage

Using tech to build a better world for tomorrow

[Article content extracted from a newspaper]

David Roberts

Carlo van Weijer

new era new mindset.

Save the Date

[Event information from a flyer]
## Day 1: New Era

### Session 1: A New Era

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<th>Session</th>
<th>Speaker(s)</th>
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<tr>
<td>08:00 - 09:00</td>
<td>Arrival - Registration</td>
<td>Periscope Niki Siropoulou intro Master</td>
<td>Master Of Ceremonies: Nikola Mylonopoulos</td>
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<tr>
<td>09:00 - 11:00</td>
<td>Welcome</td>
<td>Peter H. Diemandiu, ND</td>
<td>Exponential &amp; Abundance 101: From Linear to Exponential</td>
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<tr>
<td>11:00 - 12:00</td>
<td>Coffee Break</td>
<td>Peter H. Diemandiu, ND</td>
<td>Innovation and Disruption</td>
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<tr>
<td>12:00 - 14:00</td>
<td>Day 1 Lunch</td>
<td>Dimitris Vassilakis</td>
<td>AI and Human Interaction (Jazz performance)</td>
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<tr>
<td>14:00 - 15:00</td>
<td>Lunch Break</td>
<td>Vivienne Ming</td>
<td>The State of AI</td>
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<tr>
<td>15:00 - 16:45</td>
<td>Session 3: Innovation &amp; Security in the 21st Century</td>
<td>Ramez Naam</td>
<td>Exponential Innovation</td>
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<tr>
<td>17:30 - 19:00</td>
<td>Fireside Chat</td>
<td>Peter Diamandiu and Journalist Alexis Papachristos</td>
<td>Greece in the 21st Century</td>
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<tr>
<td>19:30</td>
<td>Cocktail Reception</td>
<td>David Roberts</td>
<td>Exponential Leadership and how to leapfrog a country</td>
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### Session 2: The World Through Devices

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<tr>
<td>11:15-11:45</td>
<td>Deloitte Workshop</td>
<td>Conard Young</td>
<td>&quot;The Future Of Tax&quot; with Conard Young at the Second Floor Foyer</td>
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### Session 3: Innovation & Security in the 21st Century

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## Day 2: New Mindset

### Session 1: Deep Dive into Health, Energy & Transportation

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<td>Arrival - Registration</td>
<td>Periscope Niki Siropoulou intro Master</td>
<td>Master Of Ceremonies: Nikola Mylonopoulos</td>
</tr>
<tr>
<td>09:00 - 11:00</td>
<td>Opening</td>
<td>Vivienne Ming</td>
<td>The Future Of Human Potential</td>
</tr>
<tr>
<td>11:00 - 12:00</td>
<td>Coffee Break</td>
<td>Divya Chander</td>
<td>Future of Health</td>
</tr>
<tr>
<td>12:00 - 14:00</td>
<td>Session 2: From Idea to Action</td>
<td>Amin Touhani</td>
<td>Economics &amp; Exponential Business Models</td>
</tr>
<tr>
<td>14:00 - 15:00</td>
<td>Lunch Break</td>
<td>Carlo van de Weijer</td>
<td>Future of Transportation</td>
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<tr>
<td>15:00 - 17:00</td>
<td>Session 3: Upgrading Society</td>
<td>Jyotika Virmani</td>
<td>X-PRIZE the future of the planet</td>
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<tr>
<td>17:30 - 19:00</td>
<td>Fireside Chat</td>
<td>Alex Gladstein</td>
<td>Why Decentralized Technology Matters for Freedom</td>
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### Session 4: Closing Session

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<tbody>
<tr>
<td>17:30 - 18:30</td>
<td>Closing Keynote</td>
<td>Amin Touhani</td>
<td>Closing Keynote</td>
</tr>
<tr>
<td>18:30</td>
<td>Closing reception</td>
<td>Periscope</td>
<td>Closing Reception</td>
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Speakers

- Jaya Baloo
- Tomas Björkman
- Peter Diamandis
- Divya Chander
- Stefano Gastaut
- Alex Gladstein
- John Hagel
- Larry Keeley
- Nikos Mavridis
- Jody Medich
- Vivienne Ming
- Ramez Naam
- Alexis Papachelas
- Dimitri Papalexopoulos
- David Roberts
- Amin Toufani
- Carlo Van de Weijer
- Dimitri Vassilakis
- Jyotika Virmani

Niki Siropoulou
Summit Director

Nikos Mylonopoulos
Master Of Ceremonies
A crisis is a terrible thing to waste. While the last 10 years have been difficult, the next 2 decades will see even more dramatic change. Greece needs to realise a clear vision for her future that offers clarity and purpose to her people.

Peter Diamandis

Fortune Magazine recently named Peter Diamandis as one of the World’s 50 Greatest Leaders. Diamandis is the Founder & Executive Chairman of the XPRIZE Foundation, which leads the world in designing and operating large-scale incentive competitions. He is also the Executive Founder and Director of Singularity University; a global learning and innovation community using exponential technologies to tackle the world’s biggest challenges and build a better future for all.
• There is no crisis you should waste. The future is what you make it to be. Whatever speaks to your heart, take it home and share it. The message is one of hope and opportunity, change and possibility.

• Where is the world going? We are alive at the most extraordinary time. Each and every one of us is empowered more than in any other time in human history.

• We have more access, to more capital than any time in human history. Expertise throughout the planet is now just one click away. The next 20 years we are going to reinvent what it means to be human.

• A time of rapid change is a time of incredible opportunity

• What am I passionate about and what do I want to create? What do I want to do with my life?

• We evolved on the savannah’s of Africa and we looked at a life that was local and linear. Now the world is exponential and global. We haven’t had a “software” or “hardware” updraft for 20,000 years.

• What does exponential growth look like? Take 30 linear steps and we are 30 metres away. Take 30 exponential stops and we are 26 x around the earth.

• Moore’s law is the observation that the number of transistors on a piece of silicon has doubled every year since 1965. Change is accelerating, it’s not slowing down.

• Convergence is creating new business models. In the next 10 years we will create more wealth than we have in the entire past century.

• The 6Ds – Products and services becomes Digitised. Things can start slowly. The change and growth is Deceptive to begin with. Then Disruption hits. Dematerialisation means that everything fits in your pocket (torch, camera, music, books) Demonetisation occurs due to demand resulting in products and services getting cheaper. Democratisation means you can be in Athens and reach 1 Billion people in Africa.

• Exponentials are bringing us abundance. The future is better than you think. Mindset is the most important asset you have. If you think there is no future, you won’t work for one.

• The amygdala in our brain scans everything you see and hear for negative news. If you see ‘negative’ you go on red alert. Thousands of years ago, if you missed bad news you could have ended up dead. News is 10:1 negative to positive. We ignore the positive headlines.

• There is evidence of abundance all around us. Global income has increased, lifespan has increased, there is more food available, energy, transportation is available and we have multi channels of communication.

• Literacy levels have increased, more children are going to school, and less children are dying before the age of 5.

• We are living in the most peaceful time in human history.

• Technology is the resource we use to covert scarcity to abundance. Everybody is about to be connected online. With 5G we will be able to download a movie in under a second. We can 3D print on the cloud. We are connecting everything. We have the Internet of Things or the Internet of Everything. We will be able to know everything. The 1.6M Drones in the air by 2021 will capture everything.
• You can ask any question you want and your AI will gather the data and bring it back to you. Will you learn or hide? Will you get excited or become fearful?

• We have a resource abundance - every time we look we discover more. There is no scarcity of resources. It’s about where we look and how far we look.

• There is an explosion of capital around the world. Crowd funding doesn’t care where you live. Rather it’s your idea that matters.

• Vitality and Longevity? How do we add 20-30 healthy years onto everyone’s life? Stem cells drop off as we age but work is being done to replace stem cells in the body.

• In 2001 it took $100M and 9 months to sequence a human genome. In 2018 it now costs $100 and takes very little time.

• Expertise Abundance - wherever you live, you have access that is one click away to anything you need.

• Small teams can do now what only governments could do.

• Who’s your target? What’s the problem you want to solve? How do you go out to the world and get the people to solve it with you?

• The X Prize has birthed innovations such as The Tricorder, a device that is reducing the cost of health care. The Tricorder is demonetising and democratising the health industry.

• Humans rise to a challenge. It doesn’t matter where you went to school or what you’ve ever done, if you solve a problem you win. We all win.

• We are alive at the most extraordinary time in human history. What do you want to create for yourself, your family and your friends?

• Greece is not an island unto itself. It exists on a planet. Greeks are the most educated race and the most fluent in languages.

• Stay mindful of technologies. Become aware of and use the technologies that are available.

• 3 most important things for living a wonderful life are:
  1. What are you most passionate about?
     Know your passion and then nothing can hold you back.
  2. Ask great questions regardless of whether you are a CEO or a child. Become a great questions asker.
  3. Don’t ever ever ever ever give up.
You've got to do something courageous with your life. Grow your compassion and courage comes with it.

David Roberts

David Roberts is one of the world's top experts on technology, disruption, innovation and exponential leadership. His passion is to help improve the lives of a billion people in the world by helping leaders create new intentions for global good and, through technology, disruption.
• The Butterfly Effect – Something as small as the flutter of a butterfly’s wing can ultimately cause a typhoon halfway around the world.

• With disruptive innovation, we get lost in the detail of technology.

• The Spice Story - The spice trade was one of biggest industries in world. The myth was created that spices preserved food when in fact what they do is make rotten food taste better. The demand for spices was tremendous. They were grown in east and moved towards the west. By the time they made it to Greece however they were expensive. If you loaded up ship with gold, you would make less money than a ship loaded up with cumin.

• Disrupting the Spice Trade - One guy had the idea to disrupt the spice trade. He was going to go the other way around the world. Columbus was an entrepreneur. Explorers understand exploring, entrepreneurs don’t understand their industries which allows them to try things other haven’t tried before. Columbus understood the journey before him even though his maps were all wrong. He made it back. He brought no spices but brought back enough gold to save Spain. Entrepreneurs often don’t succeed at what they set out to do but succeed at something else.

• The same areas are still ripe for disruption; complex experiences, broken trust, redundant intermediaries and limited access.

• Frederic Tudor invented the insulated warehouse. He cut ice. He realised that if he brought ice to the Caribbean, he could make money. He made money cutting ice out of Lake of Massachusetts and transporting it. Ice preserves food. And that disrupted the spice industry!

• The question is, how many of the people and companies that were in the spice trade transitioned into the ice trade? There is no record of anyone making the transition. Even the ships used to transport weren’t the same. The entire industry was taken down by one guy who knew nothing about spice.

• Disruption comes from without your industry. You need to master other industries.

• Who would think that the guy who disrupted an industry would be disrupted? He was disrupted by an ice maker with propaganda that artificial ice wasn’t as good as real ice. No one from the real ice industry made the transition into the artificial ice industry.

• What industry are you really in? In this case was the disruptor in the Spice industry or the Ice industry? Actually, they were in the food preservation industry. If they had been aware of that, they would have worried about the ice. Which would have allowed them to take action. The only thing that doesn’t work is when you do nothing.

• The democratisation of technology allows for incredible things to happen in the world, to solve problems for 1 billion people around the world.

• The refrigerator was an evolution of the ice box. What will disrupt the fridge? There are long-life milk products now. We know the gene that ripens fruit and vegetables. Maybe we will not need a fridge. The magic marker bacteria eats bacteria that eats the vegetable!

Amazon delivers food within an hour of ordering. People don’t need a refrigerator to keep things cold. Drones can deliver in less than 90 seconds. Why would you need a fridge?

• Clayton Christensen is said to have coined the phrase Disruptive Innovation. Large, established companies make products and often make better products than their customers need. A disruptor arrives whose product is usually poor to begin with, so the big companies don’t compete with them. They even ignore them. Then “suddenly” the disruptor takes over.

• The first mobile phone was expensive, took ages to charge and was useable for 10 minutes. The technology in the cell phone of today costs less and the device is much smaller.

• Nokia is the warning here. They had been talking about disruptive innovation for 25 years. Where did the glass phone come from? It didn’t come from the cell phone industry. It came from the computing industry, from Apple and Samsung.
• Big companies are terrible at disruption. Most disruptive ideas don’t even make it to the CEO. It’s hard for companies to do disruption, so disruption is left to startups. Companies that disrupt themselves are powerful.

• Diverse disruption could be next in the communications industry. With glasses and chips, the phone may disappear completely.

• Pilots in a plane can control everything through the cockpit. Likewise, the phone will control everything on the Internet of Things. Through the phone and the internet, our lightbulb knows when the sun will rise, and it can be set to warm up at the right time. The internet enables our cup. Our phone is connected to our cup and our cup is connected to our watch. Everything in our world can be enabled and connected to the internet. In 20 years, our phones will be smarter than us. If we still have them.

• In the last 30 seconds, Siri had a million interactions. Unlike humans on a grand scale, AI continually learns from AI.

• Alexa, Siri, Google Now and Cortana will keep learning about us. As they learn more, they will help more. They will form a personality and develop a sense of humour. We may end up talking more and laughing more with a AI.

• 6 years ago, Watson fit into a room. 3 years later it fit in a laptop. Now Watson exists in the cloud.

• Doctors are being disrupted. IBM went into health care, skipping diagnoses and going straight to treatment. A test was conducted on the accurate treatment and decisions in early stage lung cancer. The health care professionals were 50% accurate. Watson was 90%.

• In the late 1800s anything that moved had electricity added to it and products evolved. For example, a hand operated drill evolved into a power drill. The same thing is happening now but with AI. If you can find something that does something, add AI to it and make it smarter.

• Ants build a whole ecosystem with a pin sized brain. Ants can sense. We are trying to sense our future with a small brain.

• Pursue the future and you will find great resources and have great impact.
Vivienne Ming

Named as one of 10 Women to Watch in Tech in 2013 by Inc. Magazine, Vivienne Ming is a theoretical neuroscientist, technologist and entrepreneur. She co-founded Socos, where machine learning and cognitive neuroscience are combined to maximize students’ life outcomes. Vivienne has developed a predictive model of diabetes to better manage the glucose levels of her diabetic son and systems to predict manic episodes in bipolar sufferers.
AI is the greatest technological innovation in the history of humanity, or it's a great big frog that will turn us into paper clips, or it will turn us into Gods and we will all be our best selves. It's hard to know which because the changes are coming so fast. People treat AI the same way they treat stories of angels and demons, a fantasy that we are living in.

What might AI mean as a business leader, olive maker, citizen or parent?

It is a frightening tool because of what other people might do with it. Whatever AI is, it will always be the sum of our ethics and morality.

Machine Learning is an extension of an AI where the systems can actually learn on their own to make decisions through data and/or experience. AI can be trained to do super-human things if you own the data and infrastructure to do it.

There are now training systems to learn and recognise facial expressions. This isn't a new concept. There was talk about using face recognition and expressive emojis 20 years ago. In Autism Spectrum Disorder, recognising human emotions is paramount. This can be taught. AI can be used to master the recognition and Google Glass can be used to alert of the emotion. With autism, there is a lack of empathy. Empathy can be learnt. A flash card is happy or sad but when you interact with a human story, you develop understanding.

"What am I going to do with all this data?" If you use this phrase, then your employment days are numbered.

Once you start building systems, you realise what is hidden in the data is a story. The story of human life echoes over data. AI can be used to understand people's lives. It's what you do with the algorithm that matters.

AI is any brief expert human judgement made faster, cheaper and better than a human could ever make it.

AlphaGo is a computer program that plays the board game Go, developed by Alphabet Inc’s Google Deep Mind in London. It is a system built by deep mind that learned how to play and it has defeated the best players in the world. The system trained itself in a day, yet Alpha Go doesn't understand Go. So, we have massively powerful tools that can outperform the best people in a field, without understanding what they are doing.

Halo is a military science fiction first-person shooter video game franchise. It is managed and developed by 343 Industries and is a subsidiary of Microsoft Studios. The series centres on an interstellar war between humanity and an alliance of aliens known as the Covenant. 5 AIs were trained to play together as a team. Every day of AI training is equivalent to approximately 125 years of human experience because unlike a human player who has played their whole life, an AI has no preconceptions of any game or system and can crunch data to maximise a score.

Any occupation that has lots of data and data collection associated with it will be easily automated. Picking strawberries is a very hard manual task. That occupation is not easily automated.
100s of startups are building AIs to do computer jobs. AIs can do certain jobs faster and cheaper than humans. A lawyer took 25 minutes to read a contract. An AI took 22 secs. AI takes input and spits out information. It’s just a tool.

Amazon used information about everyone that they had ever hired to see what they could create.

Deep neural networks and AI learn from experience and currently we get that bias in the results. AI can only learn what it gets fed.

Technology must always challenge us. When we turn it off, we should be better than when we turned it on.

We already know so much about the world. We can build knowledge into AI that we know already. We will transform the way AI interacts in the world.

Will AI ever be smarter than we are? Yes, but no one has invented this yet.

Currently we have a mash up of the best of what machines can do and the best of what humans can do.

AI is an enormously powerful tool. It’s what we choose to do with it that actually matters.

Always use these systems to make things better. Do we choose to improve humanity, or do we choose to replace it?
A worthy purpose into the future would be to have a harmonious, mutually beneficial symbiosis within the new World Ecology.

Nikolaos Mavridis

Nikolaos Mavridis is the founder and director of the Interactive Robots and Media Lab (IRML), and a PhD graduate from the Massachusetts Institute of Technology. He has served as faculty at numerous institutions worldwide. His research interests include human–robot interaction, and especially verbal and non-verbal communication with robots, artificial intelligence, machine perception, and cognitive systems.
Robots are part of our everyday life alongside workers, companions and friends. What are the possible futures? Why are these discussions important?

In the US Economic Report 2016, there are 10 pages on Robotics and Automation. “...significantly increased via robotics and automation which accounted for 10% of GDP growth and 16% of labour productivity growth in spite of a climate of job loss anxiety.”

The first jobs to go will be low earning, repetitious, low skilled jobs e.g. drivers, anything that can be automated.

Leibniz, “It is unworthy of potentially excellent men to lose their lives like slaves in labours which are not fitting to humans... when they could be relegated to machines.”

What is Freedom? Lives that are fulfilling and creative and conducive to common good are the result of ‘freedom’.

Very soon the cheapest robots will be cheaper than the cheapest labour. And we are not just looking to manufacturing anymore. Automation and robots are being used in rescue, transport, health, space and many other fields.

Our expectations of robots are varied. Currently robots have the capabilities of 3-year-old. AI and robots can display and recognise emotions.

There is a big change in manufacturing with robots working alongside humans. Robots have high tech sensors that can sense when you are standing next to it.

Data + Intelligence is the new fuel and the new geopolitics of information.

There are socially beneficial aspects of AI. Robots are being companions to the elderly, robots are lifting patients. Robots are being used in therapy to help children with autism become more in sync with what goes on around them.

What was once labour intensive can be now be done in an instant in some cases. AI and mobile phones/apps can control many factors in our lives.

Fourth Industrial Revolution - Digital physical and biological systems. This includes autonomous robots, industrial internet, additive manufacturing, simulation, cyber security, augmented reality, software integration, cloud, big data and analytics.

5M jobs lost to technology by 2020. But how many will be created? Create a space that allows people to think freely. We are redefining what it means to be completely embedded in the world.

We will be increasingly able to make our wishes come true but we need to be mindful of the consequences.

Dreaming and creating the world we wish to live in could be done with us all working together from across the world and across different nations. We can dream together, think together and decide together to create a future that is worthy of the true essence of humanity.

NIKOLAOS MAVRIDIS Robots and Humans
Jazz can reveal and teach creativity and emotion to AI.

Dimitris Vassilakis

Dimitris Vassilakis is an internationally acclaimed, award winning Greek saxophonist, vocalist, researcher, educator and composer. He has played and recorded with many jazz greats and played in famous jazz bars in New York City.
Challenge was to discover if robots could improvise.

Process of Jazz Mapping was embraced.

Simone, a robot, played Marimba improvising with the drums.

Data and algorithms were the keys to making this happen.

The object was to create a democratic system for humans and AI.

Build syntax of language.

Music can build a conversation. Music can encompass and use question/answer phrases. Musicians tell a story by playing out a thematic development. A musician makes the instrument ‘talk’. Music is story telling.

AI can be taught to recognise the ‘blocks’. The next step is to train AI to create the blocks. When AI know the data, they can be taught the syntax and then they will be able to create. Humans rely on inspiration and emotion.

The result is an unexpected structure growing out of structure.

Musicians have to be like athletes and practise all day. They need to be intuitive. They must be like story tellers.
XR is the human interface
to cognitive computing

Jody Medich

Jody is the Director of Design at Singularity University, where she provides design and innovation direction for corporate, startup and field impact teams. She employs a radical approach to Human Centred Design to create exponential solutions to the world’s toughest problems. She speaks also about Augmented and Virtual Reality for SU.
JODY MEDICH How Our World Changes With Augmented Reality

Extended reality (XR) refers to all real-and-virtual combined environments and human-machine interactions generated by computer technology and wearables. It includes augmented reality (AR), augmented virtuality (AV) and virtual reality (VR). XR is a continuum of devices, an immersion from virtual to almost real.

- XR will accelerate dematerialisation
- Memos and spreadsheets, stores and letters and books will all be dematerialised
- Abundance begins with dematerialisation and digitisation
- Dematerialisation of objects results in a reduced desire to own goods and an increased desire to use them as needed
- Dematerialisation of spaces means we can go to the surface of Mars, hang out in Silicon Valley and then go to China
- Holoporation from Microsoft allows a father and daughter to interact when they are on opposite sides of the globe

- With the dematerialisation of experience, we can have someone else’s experience as our own. This changes our understanding of what experiences are.
- Enter the ability to suspend disbelief and we can ignore the real world around us and immerse ourselves in alternate realities.
- The brain cannot differentiate between what is real and what is not, because it is what we are seeing.
- Burn victims were immersed in a VR game, SnowWorld, that immersed them in ‘cold’. The result was a 20% reduction in subjective pain and a reduced use of morphine by 60%
  After 6 months the burn victims could summon the visualisations without the VR.
- SnowWorld was cost prohibitive in 1993. In 2018 we have demonitisation.
- XR Accelerates learning. Experiential learning is more accessible through VR.
- Access to smart phones has democratised education. VR and AR education is being rolled out in major cities.
- Training in VR offers training in a safe place. The military is using VR to detect land mines.
- AR and VR are being used for soft skill training in the fields of customer service and retail. It can be difficult to learn on the job. Technology is allowing safe learning platforms.
- VR has made it possible for a surgeon to operate on someone whilst across the world. We have the ability to send a robot in and have a human operator in a different location.
- XR improves the understanding of Data. It takes 20 years to become a data scientist. With VR we can create different ways of understanding. At a glance we can see what the data is doing. Lume train new data scientists in a human centred approach to data.
- Video game players can become experts in cyber security.
• XR makes us more productive. Head mounts are being used more and more for work. We will get used to using it at work then we will take it into real life.

• GPS is a form of AR that ties us to the world in a real way. We don’t consciously associate GPS with AR. With GPS we focus on the functionality of the device and focus on the real world at the same time. We are multitasking.

• Task based memory is limited to one task at a time. Every interruption costs you 0.3 secs - 30 mins. We are so used to it we don’t notice it.

• We check our phones 2600 times per day. Screens are killing our ability to think.

• AR reduces interruptions because you look through the screen. Screens are simply magical pieces of paper.

• With reduced interruptions comes improved productivity because there is a reduced interruption cost.

• We can create the Human Interface to Cognitive computing. This improves workflow.

• Augmented Abilities – A firefighter mask can switch on infrared vision and connect all firefighters which will amplifying abilities in the field.

• We once believed Neural Plasticity ended at the age 12, after which the brain could not be rewired. Diplopia (double vision) sufferer James Blanca played a game where he trained his bad eye to full 3D vision through AR. This transferred into real life. VR + Real world physical therapy.

• The Walk Again Project has brought telepathic control into reality, with a woman controlling a robotic arm to give herself a drink with her mind.

• How will you extend reality in your work/workplace to benefit others.
Ramez Naam

Ramez is a computer scientist, futurist, and award-winning author. He spent 13 years in Microsoft, where he led teams developing cutting-edge technologies. He currently analyses how technological innovations can respond to climate change challenges.
Science fiction knows better. In the 1950s Sci Fi was bigger, bolder and more expensive. Today we are replacing matter and capital outlay with faster and cheaper methods.

Zipline drones in Rwanda can supply the medical supplies you need with 100% accuracy. As technology gets cheaper and cheaper it becomes democratised.

Space shuttles are being launched and then landing due to software that has made re-entry possible. A launch traditionally cost $100M because the space craft was thrown away after a single use. Software is making things radically cheaper.

Demonetisation and Democratisation are the most important of the 6Ds. There are 700 Million mobile phones in Africa. In the near future we are heading towards 8 Billion people on planet earth who will have super powers in their phones and therefore in their lives.

Connection makes it easier to reach people to build big businesses.

The Unicorn club is huge. From November 2010 to February 2014 there were steady numbers of entrants into the Unicorn Club. Since then, the number of Unicorns has increased exponentially. Change is coming faster than ever.

Innovative companies do their innovating bottoms up.

Disruptors experiment constantly. We need to empower individuals to do new things. Amazon trialed putting the click bar at bottom of page and more people clicked.

In 1995 New Zealand built a boat for the Americas Cup and experimented with the keel. They used software to build a new keel. They couldn’t tell if the improvements were due to the sea or the tide, so they built an extra boat and ran the new and the old keel alongside each other. They tested.

If you are going to experiment you need to risk failure. Amazon’s Jeff Bezos believes that companies that don’t experiment are headed for failure. Seth Godin’s mantra is to fail fast and cheap. Try things out cheaply. Fail often. Fail in a way that doesn’t kill you.

There is a bias for action and autonomy. Consensus projects slow things down and is where innovation goes to die. Steve Jobs, “it doesn’t make sense to hire smart people and tell them what to do. We hire smart people so they can tell us what to do”.

Self-actualisation is at the top of the hierarchy pyramid. When you are living to your highest purpose, you are at the top of the pyramid. Autonomy Mastery Purpose and Trust are the control.

Companies need to change the Business Model to achieve success. They need to make use of data, platforms, network effects and virtuous cycles. The more people who installed Microsoft, the more traffic went to the site. Apple built apps for the phone and now every major high-flying startup or big business has an app. Uber is worth $69B. When you pull out the App and order an Uber you create a network effect — more drivers, more coverage, faster pickups, more demand, less downtime, lower prices.

Every person using Airbnb makes it more attractive for people to list their property and more attractive for people to use it. It’s a loop.
• Teslas have driven 1.4 Billion miles, all the while uploading data. This data is then used as training data to improve features. We have “Fleet learning”. If a human is driving, that act doesn’t make other people better drivers. The network effect of Tesla cars however, makes all the Tesla cars better through the upload of data collected from all the cars.

• Kodak called the first digital camera a filmless camera, but they wouldn’t disrupt themselves. They stayed in the business of paper and chemicals.

• 80% of physical media is declining and on-line media is increasing. Universal, BMG and other players in the music industry didn’t disrupt themselves and go online. They shared the Kodak mentality, allowing Spotify and Apple Music to disrupt the industry and take over.

• Act with Purpose. Create more value than you capture.

• Future Jobs Future Skills - MIT took some of their courses and gave them away for free. This took courage. It also gave meaning to the educators.

• Gratitude improves people’s well-being. Write three things every day you are grateful for. Giving promotes happiness and promotes win-win outcomes. Giving is our best ‘default’ setting.

• “It is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change”, Charles Darwin.
Larry Keeley

Larry Keeley is an innovation and strategy expert who believes that most of what we think about innovation is wrong. Larry is President, co-founder of Doblin Group and Managing Director of Deloitte Consulting, LLP.
How do we deal with accelerants and catalysts for change? How do we embrace technology shifts that are coming fast?

Now is the time to transform Greece into a land of opportunity. The Great Fire of Chicago in 1871 led to the greatest renaissance of the world. Technologies to yield great buildings had just emerged and Chicago became the city of the skyscraper and of innovation.

Finding the future first: Powerful possibilities for Greece.

Now and then an industry changes fundamentally. Broadcasters have given over to Netflix, taxis have given over to Uber, cars will give over to Tesla, Cosmote has given way to WhatsApp, physical shopping centres are giving way to Amazon.

Failures of innovation occur because people don’t know what to focus on. In more than 90% of cases teams have been given the wrong problems to solve.

Innovations that changed the world include penicillin, radio, TV, oversized tennis racquets, internet.

To innovate successfully requires several specialised skills. Business people, engineers and creatives should have a place on the innovation team.

Select a small number of great ideas that are easy to implement and harder to copy.

Deliver a product that is as culturally cool as Tesla and that has a great business narrative. It must be technologically elegant and have a fair Business Model.

Consider what is possible from a technology perspective, what is viable from a business perspective, what is desirable from a customer perspective, what is sustainable from a community perspective and then decide on what comes next.

Greece can and should be vastly bolder in its innovation. She should pursue innovations that are globally newsworthy.

Greece should now Create Innovation Zones (identify areas to transform and create tax and investment incentives), have Universities Build Skills (grant nano degrees around skills and amass certificates to get degrees), Reward Volunteers (use crypto-credits), Crypto Credits Advance Families (combine crypto credits to increase value), and Advance Sectors Systemically (make it culturally cool for young people to volunteer so heroes are created from community stars).

What if Greece humanises the geek/gig economy?

Technology is always a profound catalyst for innovation.

Design for velocity, distinctiveness and deep customer relationships.
Hackers are going to hack. At first, they are motivated by fun. Then they are motivated by money. They evolve from cyber criminals into hacktivists. We need to head for CyberPeace.

Jaya Baloo

Jaya Baloo works in the information security arena. She has worked for global telecommunications companies including Verizon and France Telecom. Jaya’s expertise is in lawful interception, mass surveillance, and cryptography.
• Cyber-attacks are increasing, resulting in great uncertainty. When devices collude, attacks can escalate quickly.

• Businesses spend $12MUSD to secure themselves from a $40 attack.

• DDoS mitigation is a set of techniques or tools for resisting or mitigating the impact of distributed denial-of-service (DDoS) attacks on networks attached to the Internet by protecting the target and relay networks.

• Organisations are collaborating to protect each other’s customers. There is a movement towards cooperation to counteract attacks. The Dutch Continuity Board is one such example.

• Cyber criminals are entrepreneurs in their fields.

• All Greek emails and phone numbers can be enumerated allowing for targeted attacks.

• Cyber Security is the Fifth Dimension of warfare after land, sea, space and global.

• World War III is happening now. We don’t recognise it as we aren’t used to small companies being a threat. We must realise that critical systems need to be secured.

• The results could be international collateral damage.

• The Age of Innocence has been lost. The Belgacom Hack in 2013 caused many people to suffer. The operation was the first documented example of an EU member state covertly hacking into the critical infrastructure of another.

• Requirements for individual privacy and global security include secure hardware, secure operating systems, secure protocols, secure applications, strong cryptography and a solid understanding of what you need to protect and from whom.

• Zero-day is a software security flaw. It has the potential to be exploited by cybercriminals. The term “zero-day” refers to a newly discovered software vulnerability. Because the developer has just learned of the flaw, it also means an official patch or update to fix the issue hasn’t been released.

• You can self-protect; upgrade when possible, backup, use Two Factor Authentication, use VPN, use encryption and secure apps and know when not to click.

• Quantum computing is a threat to cryptography. Quantum computers will be able to solve many problems in no time at all. Quantum computing will also mean that cracking security codes will take no time at all.

• Hardware and software vendors should be made liable for the security of their products. It should not be up to the user to sort out the security mess.
Peter Diamandis and Alexis Papachelas

Alexis Papachelas has a degree in History and Economics from Bard College and a Master’s degree in International Affairs from Columbia University.
To change Greece from Linear to Exponential thinking, what Greece needs is the clarity of a vision that her people can support. There must be a Massive Transformative Purpose (MTP).

What are the 1, 2, or 3 things that Greece will invest in. It’s not hard to find quite a few things to consider. It is hard to pick.

How do you take the natural assets of this country and condense them into a clear vision? You must change the brand. Israel is known as the Innovation Nation. Estonia has made a Blockchain commitment. What will rebrand Greece as a forward-looking nation?

There is nothing Greeks don’t have that people in San Francisco do, except maybe mindset. There’s enough wealth inside Greece. There should be a Billion Dollar fund here.

The refusal to give up, the passion to do this. This is our vision. What do we want to create?

Failure is celebrated through learning. Success at Amazon is a result of experiments. Some fail.

Education is critical, but not the type we know. Mentorship and Apprenticeship is the best type of education.

With the dematerialisation of experience, we can have someone else’s experience as our own. This changes our understanding of what experiences are.

CEOs are advised to have a group of 12 millennials in all board room meetings. They should watch you, see you. The level of mentorship is critically important.

People are scared of change and AI. They are scared as there is already a high rate of unemployment. Technology will create more jobs than it takes. Contrary to popular belief, we are creating jobs at an incredible rate. We are reinventing society. There will be increased partnering with AI and robotics to make our dreams come true.

It is critically important to have an MTP that lives in your heart and soul. When you have an MTP, even as technology is changing, you pluck your MTP to drive your passion. Most of us subscribe the meaning of our lives to what we do.

How do we partner with technology? Cell phones are technology that we are connected to. Today’s technology would be scary to our grandparents.

Longevity is being vibrant and having the cognition that you had at 50 when you are 80 or 90. We will have to change the retirement age as people won’t want to fully retire.

We will see AR and VR grow. We will see dual citizenships in the virtual world. Or when Bezos and Musk get us into space, we can start with a clean sheet.
Privacy has been dead for a while. AIs can read lips and analyse emotions.

The world is getting better at an amazing rate. It doesn’t mean we won’t have issues. But every man woman and child will have access to education, shelter, clothing and health care. Every man woman and child will have their basic needs met.

With the XPrize, the teams maintain their IP and start a business afterwards. The goal is to create competitions to inspire entrepreneurs to ask, “How would I solve that problem?” The answer we want to hear is, “Just Go For It!”

In Shenzhen, China, 10 years ago a man in his late teens, chose not to go into his father’s profession nor work as fisherman. He went to find a carpenter to build him something. He found a carpenter who agreed to work with him and build the equivalent to IKEA furniture. He put it on Alibaba. That Community is now generating over $1B in furniture. Villages around them join in making everything from furniture to socks.

The most important thing for Greece is to engage her entrepreneurial passion. How do you ignite the entrepreneurial spirit in Greece?
1. Energy

Greece has energy but it’s not sustainable. The obvious path is solar. Solar is getting cheaper and if you put it on your house, the value of that house now goes up. You can save the world, get your electricity cheaper and increase the value of your house. **Solar will get so cheap that you won’t need the grid.**

2. Currency

The costs of maintaining paper money are hidden. They include the cost of printing, the time required to count and exchange money, the cash register you need to buy to store currency, the machine you need to count it, the safe to keep it in, transport to move the money, a bank to keep the money. It is harder to hack crypto than it is to forge a bill.

3 & 4. Blockchain

Blockchain allows you to have money and to have rules. When we take an Uber, we pay Uber and Uber pays the driver. That’s how our servers work. Ethereum has no server. Two parties transacting have an app and one pays the other directly. Ethereum presents the opportunity to have a different type of money. You might own a Tesla and you ride it to work. Once you arrive at work, you could send your Tesla off to work to pick others up and transport them. **You are then earning money from a secondary source while you are at work.**

5 & 6. Borders, Job Locality and Immigration

Everything flows over borders. Everything but people. Unemployment is high. But around Greece its low.

7. Unemployment

150 years ago, we were all farmers. Everyone had a farming job. Everyone was worried that machines would take farming jobs. Instead, machines created new jobs. We fear that automation will “steel jobs” but technology evolves. Automation creates more jobs than it destroys. **A man arrives in Denmark from the USA and 2 days later he is driving for Uber. There is no language barrier because there is software that makes it easy to talk to people. We are in a position where you can do what you are good at, do something that has some significance. Robots will take all the jobs we don’t like.**

8. Roads and Oceans

The cost of repair, maintenance and building new roads is crazy. Roads with two to three lanes can cost $200MUSD. The cost to maintain roads is around $2.8TUSD. Autonomous cars will not solve this problem. **Greece can Leap Frog transportation. Companies are testing flying cars. There are drones in Dubai that carry 2 people. We will have lanes, or layers, in the sky. We can have people travelling in different directions.**

9. Transportation

Virtual Reality is at the poorest quality that it’s ever going to be. The technology around VR is getting better at an exponential rate. VR will be at the level of the human eye. This will change how we travel, and it will disrupt our reality. In the same way that cars disrupted horses, VR will disrupt our reality. VR is also demonetising with Google box costing $4USD.

10. Education

Painfully, we have been teaching the same way for 100 years. We don’t use 98% of the education we receive.

**Learning needs to be lifelong.** Udacity has created a system where if you don’t finish your course, you get some money back.

11. Crime fighting

As planes fly overhead, they will capture images. Just as in the movie, Minority Report, we will be able to prevent crime.

12. Medicine

We are digitising our DNA. The cost to do so is crashing. Everything in our bodies can be fixed with software. Cancer cells mutate but not enough for our body to recognise them as bad cells. We have the ability to take the white cells out, reprogram them in CRISPR, and put them back into the body to fight cancer cells.
13 & 14. Poverty and Welfare
There is currently enough food in the world to feed everyone, but we haven’t figured out how to do it yet. Half the hospitalisations in the world are the result of people drinking bad water. In ancient times if you lived within the castle you were looked after. In the 21st Century we have people dying because the water they are drinking is bad.

15. Unstable Divide
The widening social divide is not good for us. It creates separation. If you were in the confines of the castle, you were looked after. The problem isn’t abundance it’s leadership and distribution.

16. Evil Perpetrators
We have an instinct for self-preservation. When we have perpetrators, collaborators, bystanders and victims, the bystander is the fulcrum. Bystanders are the only group that can create change. The problem is we are surrounded by so many perpetrators that we don’t realise we too are perpetrators. We are involved in all kinds of things. Everybody wants to change the world, but nobody wants to change. Self-preservation kicks in and we are afraid we might get hurt if we try to help.

17. Fear
At the base of all inaction, at the core of every country’s problem, is fear. This is the single cause behind everything. Fear prevents us from doing the right thing. Fear prevents us from taking risks. Successful operations involve risk and successful operators take risks. We don’t ever celebrate the risk takers, the losers. We need to change the culture we create in countries and companies, so risk is embraced.

18 & 20 Voids of Leadership / Bad Ethics / Yourself
The United Nations was formed to prevent WWII. In the last 4 years they have disrupted themselves. Now they are about the 17 sustainable goals. If the UN can disrupt itself and focus on the Global Goals, then no other nation in the world has an excuse.

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We build our own walls psychologically and they become the biggest constraints of all our growth and contribution.
Cocktail Reception
Day 1
DAY 2: NEW MINDSET
A child born today will grow up and invent a cure for a disease that otherwise could kill your child. Another child will write an amazing novel. The only thing that may prevent this are the circumstances of their lives.

Everyone is already amazing. We need to help children and people realise this, so they can live the most amazing life possible. We need to share the world with other amazing people.

We could build an AI system that could save a dying child and measure the impact of refugee entrepreneur.

Investing in these practices requires sacrifice. Purpose is measured in the scientific world by surveys. AI track things. Purpose is sacrificed. There is a paradox here. People that are purpose driven often live happier, healthier longer and often wealthier lives.

The world gets better when old men plant trees even though they won’t live long enough for the tree to grow so they can appreciate the shade of the tree. They do something that leaves the world a better place and that gives purpose.

Technology holds the profound opportunity to change someone’s life.

Perspectives on future of work are ridiculous. We have no idea what the future is. We can only be absolutely certain that the future is uncertain. Every single policy paper, from the UN Bank, McKinsey, Accenture, Govt papers etc., none of them talk about people, they all talk about workers, skill sets, jobs. We keep trying to predict one single specific future and identify skills for that future, e.g. everyone needs to learn about AI, learn to program etc. but it’s all rubbish. Why would you learn how to program at school now when in 10 years’ time programming and coding will be done by AI?

We are moving towards a future where a small number of people will have creative jobs ahead of them. Most people, e.g. someone who didn’t go to college, will be able to do 80% of the work a university graduate did.

We need to help people be a part of the creative economy.
AI is any brief expert judgement faster, cheaper and better than a human.

A CFO of a large company bought technology that can do 80% of the current human tasks. Will you be a part of the 20% or will you work towards a future that includes us all?

Rodney Mullen is the greatest skate boarder of all time. On the night he won his 40th championship he went to an after party and drank champagne then went and worked on new skate moves. He’s not afraid of losing it’s just that getting beaten is not in his head. Deep inside himself, he wanted to practise.

The sales people who sold the most, cared the least about incentives, yet sales is most incentivised job in world.

When a product is ready for release, software developers are chasing the product, their motivation is endogenous (primarily psychological). Exogenous motivation (primarily sociological) indicates that grades and rewards don’t matter. To do something to carry on family legacy is endogenous. To simply get a great job because their parents did it (exogenous), is actually a negative predictor.

School systems decrease long-term productivity. There are 5 categories of Meta-Learning that schooling should centre around: Metacognition (self-management, self-efficacy, initiative, control, executive function, cognitive flexibility); Emotional Quotient (grit, resilience, growth mindset, persistence, inhibitory control, optimism, motivation, emotional intelligence, purpose); Social Skills (attachment, collaboration, communication, conflict resolution, perspective-taking, help-giving, leadership, ethical judgement, help-seeking, empathy); Creativity (conscientiousness, curiosity, adaptability, divergent thinking, open-mindedness, spatial cognition, problem-solving innovation, insight, fluid intelligence, exploration, ingenuity); General Cognitive (language production, numeracy, fine motor skills, gross motor skills, language-making capacity, psychological arousal control, working memory).

As income, social connectiveness, social well-being etc. increased for individuals in a study, there were causally related positive life outcomes. Seven different bio markers of health were measured. Participants lived longer healthier more impactful lives.

In life and work, pair together with those who have different strengths. Compensate for individual weaknesses by finding people that compliment you well - in friendships, social situations, community groups, business and organisations.

When investigating quality of work, gender and race were not predictive. We should be building education and hiring on the Meta-Learning. How can we be expected to know what our children will need to know? We need to build craftsmen. People will get hired to solve problems.

Future job description: Creative, Adaptive, Problem Explorer.
• What is left for humanity is amazing. Explore the unknown and be you! That’s what makes you unique. Be vested when people come up with a unique idea. Everything else can be taught. The only thing that we bring that is of value is ourselves. We can make a society of explorers.

• Technology must always challenge us. Help make the parent what you want the child to be. Do an activity with your child every night.

• Take the same technology and idea and put it in the workplace.

• How to find your purpose? Go and build it. Have the courage to go do it. Be resilient, have a growth mindset, take courage, tell your boss they are wrong, do something different to what your professor told you.

• You can let everything slip through your fingers or you can take it. I would not have been the only one that died one night twenty years ago. I came up with cures and built companies that employed people and saved lives. It isn’t about me or about my happiness it’s about building a life that makes someone else’s life better.

• Take the same technology and idea and put it in the workplace.

• You can’t wait. You get to build it. It’s under your control. Start now.

• We need to help young people believe that they can make a difference in the world.
What we do now to educate our children, to explore their mindsets, will be fundamental to leaving the world better than it was when we came into it. It is crucial that we take care of people, our communities and our entire planet.

Divya Chander

Dr. Chander is a physician and neuroscientist who trained at Harvard, UCSD, UCSF, and the Salk Institute. She has been on the Anesthesiology Faculty at Stanford University since 2008 and Neuromedicine Faculty at Singularity University since 2010. Her goal is to understand neural mechanisms of consciousness and eventually utilise this knowledge to develop improved algorithms to create better brain monitors. She is currently working on applications of neural wearable devices to crossover consumer and medical markets.
The market investment in health care drove doctors and nurses out of Greece. They left to make a living somewhere else. What can we do to restore Greek Healthcare to pre-crises levels?

Globally, there are amazing, miraculous studies, research and experiments happening in medicine. Greece can be a part of this.

A drop of blood could diagnose Alzheimer’s disease, a simple blood test could help cure cancer by catching it early.

In countries where there is no power, 3D printers can be powered by solar. People can be taught to make cad files to print what they need. We can print umbilical chord clamps in third world countries for 30c USD.

Technology can be used to bring supplies to any site. A mother was hemorrhaging and sent a message via WhatsApp. The required blood and additional supplies were sent via drones.

Our homes can be the new hub of healthcare. Continuous glucose monitoring will save lives. The biodegradable Piezoelectric sensor can monitor lungs and brain. Sweat sensors measure cortisol levels within sweat. Wearables are monitors of health.

We can now put a cap with sensors on a baby and monitor vital signs. We can monitor 30 babies at a time.

Vaxxas is a new delivery mechanism for vaccine. A short needle goes in where there are no nerve cells. Dendrites collect the vaccine. 1/150 of the dose is all that is required.

Mixed reality and augmented reality are being used in training for trauma simulations. In the UK they are using streaming for educational purposes using cardboard Google Glass. Medical education is being transformed by VR and AR.

Genomics is changing society at a fundamental level.

CRISPR will change humanity as we know it. We have the ability to cut and paste DNA. We can cut out and correct genes. CRISPR has sliced virus genes out of pigs.

Ethical debates are needed. Can we edit DNA in sperm and ova? It could help with organ shortages. We are already editing the DNA of plants.

Stem Cells is regenerative medicine. Stem cells rapidly divide and can become anything in your body. We can put them back into bodies that have diseases. Greece could be mastering stem cell treatment.

At Celularity, stem cells are being harvested from the placenta. Cells are banked to treat human diseases and restore function to bodies that have lost it.

We can take mature adult cells and revert them to their original state. We can take cells and trial drugs on a per person basis. We can CRISPR cells – the technique has become a verb. There are multiple clinical trials happening.

RenovaCare has a device that sprays on stem cells for rapid healing.

We can make ears from Apples. The fibre in apple makes great scaffolding. We can take an apple, carve it into the shape of the ear and the skin grows over the ear.

Death is literally being put on ice. At Nectome, researchers are working on a brain freeze/thaw process.
• 3D printing is being used for regenerative medicine. We don’t know how to print large organs yet. We can use patient’s stem cells and there is an Australian company printing cartilage.

• An amputee who has a stump can have a 3D image created of the stump making 3D printing a customised limb for a few hundred dollars possible.

• Regenova has built a heart in a dish, a beating heart structure.

• It is possible to build 3D models of a baby’s heart, so surgeons can practise before actually performing surgery.

• A fireman rescued a victim and in the process his face melted. 3D printing was used to restore his face.

• Robots are being used in surgery. A robot can lift a patient so a human doesn’t have to. Robots are being programmed as companions, reminding patients to take their medicine.

• Brain Machine Interface - our intentions and thoughts are being explored. Experiments have been conducted where emails are being opened using thoughts alone.

• Greece is positioned to harness the evolving era of entrepreneurship to move medicine forward and to take the lead Hippocrates took thousands of years ago.
Take Outs

RAMEZ NAAM Future of Energy

- Energy is being disrupted. Energy is a $6 Trillion per year industry. There is massive investment in energy.

- 1.2 billion people around the world don’t have access to modern energy. This drags down their potential.

- The way we produce energy is dangerous. Poor air kills more people than warfare and murder each year and the planet is heating up.

- Energy is being disrupted. Several coal companies went bankrupt between 2011 and 2017. We still use a lot of coal but the industry went from one that experienced growth until 2013, to one that is now declining.

- Wind power has experienced a 15 x price decline. The faster the wind, the steadier the power. In every country the cost of wind power is plunging. In Morocco it is 2.8c, in Brazil 2c, in Mexico 2c per kWh. The planet’s wind power has scaled enormously at 600%. Globally there is only about 4% of electricity.

- Solar Power represents a massive opportunity for Greece. The cost crossover has begun. In the sunny parts of world, we have the cheapest solar. There has been an exponential decline in the price of solar power. Now it is 6c/kWh. In India it is 3.8c, in Tucson it is half the price of coal, in Mexico 2.5c, Abu Dhabi 2.4c and in Chile 2.15c/kWh.

- People without energy live in the sunniest places on earth. Solar power grew 50x over 10 years. When you have a new technology, it is expensive. You need to find the first market and then the price starts to come down.

- Solar started in Germany, and the Germans then chose to subsidise and scale it. The sunniest part of Germany has less sun than least sunny part in Greece.

- Solar and Wind are counter cyclical and when you put them together and over a continent sized area, you can get 70% of the required supplies. There is a need to treat Europe as one unit, not individual countries. Greece can sell what it has to rest of Europe.
• Energy storage is required to get to 100%. The price of batteries has dropped 80% in last 10 years. This is a multi-decade transition.

• In 2017 China cancelled plans for 104 coal plants, while India cancelled $1.8B in coal. They are building a new solar facility. By the early 2020’s, it will be cheaper to build new renewables than run coal plants.

• In transportation, we use oil. $2T per year.

• There is a shift to transport as a service. This will change how transportation is seen in world. It’s the convenience that is creating the service. With Uber for example you can see where your driver is on your phone. And the cost is ½ the taxi ride.

• We are moving towards autonomy of transport - when we can map out the journey (Uber, Lyft and Waymo – self driving car service) and cars don’t need human intervention. Waymo has driven 30000 miles without human intervention. In March they removed the safety driver. Waymo have ordered 8,0000 vehicles.

• Half the price we pay is for the driver in taxi and hire car scenarios, so the so cost will cut again as the self-driving car service industry booms.

• GM are going all electric. We are experiencing exponential growth of the electric vehicle. Experts predicted that the peak demand for fossil fueled cars would happen in 2023 but the peak happened in China in June 2018. An Electric Vehicle (EV) is already cheaper to own. The battery is the most expensive part and they will become cheaper. According to Ford, the area needed to manufacture EV is half. When the capitol drops by half, labour drops by half.

• Take Action. The Crisis is both a danger and an opportunity. If we decarbonise - there are assets that become worthless. In destruction there is opportunity for creation.

• Reduce your costs - put some solar on the roof.

• Get energy independent.

• Energise the economy.

• Invest in the future.

• The phone is not made of matter, it is made of knowledge and information. You can drop the phone, but you keep the idea and the knowledge. When you combine ideas, they become multipliers of the value. Ideas are the greatest resource.
The best way to think outside the box is to not know where the box is.

Amin Toufani

Amin is the CEO of T Labs and Chair of Finance and Economics at Singularity University. He brings a unique set of technological, entrepreneurial and policy perspectives to the dialogue of innovation on campus.
• In the last ten seconds, twenty thousand human hours were spent in traffic, car accidents caused a total damage of more than one hundred and sixty-four thousand dollars, fifteen people were hurt in those accidents and two of those people just passed away. We can do better.

• The Slack app took 12 coders to build. Never have such small groups of people created so much.

• The Sharing Economy is taking us from ownership to access. WeWork, Uber, Udemy and RentIt allow for sharing products, services and times that have been under-utilised. How can you share? What business opportunities can be created?

• The Alibaba Group owns no inventory. What does your business have that you don’t need to hold?

• Self-driving cars will affect real estate prices because if people can work in the car on the way to work, they will be able to afford to travel further. The first self-driving car was an elevator that travelled vertically. Before the elevator, everyone wanted to live on the ground floor.

• Ownership is decreasing. Virtualisation and Decentralisation are increasingly in demand and production costs are going down.

• The key drivers of value are Virtual Digital Connection, Just in Time Delivery and Hyper Customisation.

• Exonomic Market Power - There are four types of businesses you can be in.
  1. The content business but you don’t have much market power.
  2. The product or service business.
  3. The Platform where you build a value bridge, connecting multiple sides of the market.
  4. An Ecosystem like WeChat that interlocks multiple platforms.

• The S&P 500 indicates that product and service businesses are exiting at increasing rates as platform businesses are quickly added to the list.

• How can you move from product and service to platform? You think about the competition and ask, “How do I make the lives of my competitors easier?” By doing this you build the bridge. Elon Musk said, “We believe that Tesla, other companies making electric cars, and the world would all benefit from common, rapidly-evolving technology platforms”. Musk released everything to the public.

• The fifth type of businesses therefore is the Operating System. We now have technologies that allow platforms for connection. Alibaba and Amazon are working on being the complete operating system for retail.

• What is allowing us to move from collaboration to coordination? On the road its traffic lights that create order out of chaos. Exponential growth moves us from collaboration to coordination. Email is form of collaborative communication. Coordinated communication is Slack.

• Every disruption is a story, a way for people, property and information to move more freely. In a few years you will say you are a technology company that does banking. How can you disrupt yourself today? How can you manage fewer people but more information?

• An Exponential Business Model is the Pay Per Laugh model introduced in the Teatreneu Club Barcelona. Clients have a laughing monitor and at the end of the show they pay for each laugh.

• What could your new Exonomic Model be if you shift your way of thinking?

• The SUGREECESUMMIT
Data is the new gold. We need to capture, store and use it. When we talk about IoT, we are not talking about Tech, we are talking about people. We are not talking about the future, we are talking about now.

Stefano Gastaut

Stefano leads the Internet of Things (IoT) business unit at Vodafone where he is responsible for driving IoT growth, business strategy, products and profit and loss at a global level, including the Vodafone Automotive business.
• What can we learn through data? There will be 5.3 billion connected devices by 2025. The value chain revenue is estimated to reach 232 billion euro by 2025.

• Using data to eradicate malnutrition for 100M people. Researchers tried to get to the root cause of the issue. It was discovered the issue was that since the meal could not be controlled, people got used to collecting what had no nutritional value. The solution - if we can we can know the nutritional value of the meals, we then know how many vitamins and minerals to add.

• How to enhance the lives of the long-term sick. Karen had a nephew who spent 6 months in hospital. The problem with long-term sickness is not necessarily the therapy, but that people are isolated. Patients spend all their time at hospital, separated from their families. When they get out of hospital, they have to assimilate back into the real world and in the case of Karen’s nephew, back into school. How can someone in hospital stay connected? With a tablet that is connected to a robot with 4G. This enables interaction for the child with the school. Children can have play dates with friends and can spend social time with friends even while in hospital.

• The benefits of Ekso Bionics. George had an accident and lost the use of his legs. He undertook therapy. The main purpose for using Ekso Bionics was therapeutic, to assist with circulation, prevent bone degeneration and more importantly to improve psychology and motivation to continue treatment.
Cherish your chaos more than you did before. Colour outside the lines, walk on the edge, foster a bit of chaos!

Carlo Van de Weijer

Carlo Van de Weijer is the director of the Strategic Area Smart Mobility at Eindhoven University of Technology. He advises ministries and industries around the world on future mobility policy and is a member of the supervisory board of several high-tech companies and start-ups.
The internet of Vehicles. A Mercedes has 130 miles of software and we don't even know what it all does. Tesla has 4 SIM cards.

The 6Ds - Digitisation, Deception, Disruption, Dematerialisation, Demonetisation, Democratisation. Disruption comes fast.

The music industry was disrupted. Youth now spend the same amount of money they used to be spend on music tracks, on festivals. In other words, they now spend it on the experience.

Maslow’s hierarchy of needs is all about mobility. We have been mobile for many thousands of years, changing our environment. What has changed is the daily mobility. We are now moving many more kilometres than ever before.

Flying is the greatest mobility. Is it environmentally OK? That is a problem to be solved.

So many people die in mobility. About 3,000 people every day. That is comparable to 9/11 but we don’t talk about it.

The current mobility system is not sustainable. There are 1.2 million casualties every year. We are dependent on fossil fuels. Noise pollution is a concern. CO2 is expected to rise from 25% now to 50% in 2040.

The societal damage from the current mobility system is 3–6% of GDP.

“Our vision is that by 2020, nobody should be seriously injured or killed in a new Volvo Car”.

Google don’t want drivers in cars. Drivers are the ones that create the accidents. 99% of accidents are caused by humans.

Warren Buffet, “If you do something and you can explain to the newspaper why you did it, do it. If you can’t, don’t.”

Cheap electricity will lead to circular fuels. Dyson is now making EVs.

Do we invest in Quantity or Quality? Do we want more high-speed trains, hyperloops, panes, asphalt, parking and over-tourism? Or do we want better bikes, livable urban spaces, inherent safe and clean transport, parks and leisure-mobility?

If you plan cities for cars and traffic you get cars and traffic. If you plan cities for people and places, you get people and places.

In Amsterdam at the ferry station, they eliminated the lights and the crossing and let the travelers sort it out for themselves.

Google and Apple are entering the motor vehicle industry because they want the data. Google knows where you are.

Cities are getting rid of cars. Self-Walking pedestrians will make a difference.

To survive Exponentialism: don’t fear demonetisation; reply to the needs of the reptile brain; and If you can’t predict, make sure to prepare.

“Experience, travel - these are as education in themselves” Euripedes.
Embrace a culture of admitting when mistakes are made and keep the learning process happening.

Dimitri Papalexopoulos

Dimitri Papalexopoulos has been the CEO of Titan Cement Company since 1996 and an Executive of the Company since 1989. Prior to joining TITAN, he was a consultant for McKinsey & Company in New York and Munich. He holds an MSc in Electrical Engineering from the Swiss Federal Institute of Technology (ETHZ-1985) and an MBA from Harvard Business School (1987).
• What are the implications of multiple concurrent exponential technologies? Things that once seemed unthinkable are within reach. Everything is possible everywhere.

• How does a risk averse hundred-year-old company react? Enlist dreamers and disruptors and give them space to make grand change. A group of intellectually curious and out of the box thinkers. They had a deep understanding of the business. They were able to join the dots and they were well connected and respected. They also had non-traditional partnerships outside the business (startups, academics).

• Pilot projects were selected to test and learn from. The projects aimed high. There was no interest in small incremental moves.

• The group took calculated risks, sprinted and challenged timelines.

• They partnered with a small Israeli company about equipment failure predictor which added meaning to the interactive customer interface.

• Data is the secret sauce.

• Sensors, connected, storage in the cloud to put it all together while considering ownership issues.

• The groups combined complimentary skill sets led to success.

• A culture of admitting when mistakes were made was embraced and ensured a process of continuous learning.

• Companies should attract and develop talent to build an organisation and capabilities.

• Embrace a Build versus Buy mentality.

• Everything is possible everywhere. And cement can be sexy!
What is your X Prize? Problems can’t be solved by skeptics and pessimists.

Jyotika Virmani

Dr. Jyotika Virmani joined XPRIZE in 2014 with more than 10 years of experience in the oceanic and atmospheric sciences, including both research and leadership positions. As Senior Director in Prize Operations, she is the Prize Lead for the next Ocean XPRIZE. Prior to this, she was the Director of Technical Operations for the Wendy Schmidt Ocean Health XPRIZE.
• XPRIZE, founded in 1994, creates incentive competitions to entice the crowd to take action, and bring us closer to a world of Abundance. It is a not for profit organisation that runs competitions to address the Global Grand Challenges.

• As a result of the Wendy Schmidt Ocean Health XPRIZE, we now have sensors that can pick up ocean health.

• Currently running the Shell Ocean Discovery XPRIZE. 71% of the planet is ocean yet we have only mapped 10-15%.

• In the ocean there is history, mystery and wonder. This XPRIZE aims to discover and map what is down there. Teams are required to map 250 square kilometres of ocean floor in 24 hours and bring back the images.

• It is a hugely expensive exercise to map the ocean floor. Presently in order to do this, a ship is required, and this is where the majority of the expense is.

• If a plane or ship goes down, how can we find it? It is hoped that by the end of this XPRIZE, we will be able to launch from shore and track chemical signals from the plane or ship and that the cost will no longer be astronomical to search and rescue.

• Team members from 25 countries are taking part.

• At Mission Control teams are testing using sound, linear, 3D printing, and a plethora of underwater devices.

• It is estimated that using the technology of today it would take 600 years to map the ocean floor. The XPRIZE means it will be done in 10 years.

• Other XPRIZES – Saving Coral Reefs - The copper in cell phones has destroyed 3000km of earth. We are hoping to save coral reefs from extinction.

• Earthquake prediction, Cyclone prediction, Wildfire Detection and Extinction, Solar Sheila.

• What is your XPRIZE?
We need to invest in decentralised technology if we want to scale our society in a way that preserves our freedom.

Alex Gladstein

Alex Gladstein is Chief Strategy Officer at the Human Rights Foundation. Across his career he has promoted free and open societies.
How do we scale interactions with each other that will lead to a centralised world? Human rights activists advise that we can scale society in a centralised way.

We don’t want a surveillance state. We don’t want a centralised world either. We want a decentralised world.

The Athenian leader Cleisthenes, the father of democracy, indicated we should be ruled by the people not by rules. In the year 507 B.C., he introduced a system of political reforms that he called demokratia, or “rule by the people.”

The Panopticon is a building where you put everyone who criticises your government so you can survey them. It was designed by the English philosopher and social theorist Jeremy Bentham in the late 18th century.

In China there are more than 1 billion people. Everything about the Chinese is captured on an app. WeChat is used by the Chinese government to study the daily life of its citizens.

The internet disrupted the way that news worked. Due to the internet, everyone has a voice. Bitcoin will disrupt financial monopolies in the same way. Bitcoin is an escape pack for refugees. Bitcoin allows you to bring your money with you on a USB.

People under 10 may never have a bank account but will leapfrog to a cryptowallet.

Bitcoin is Open, Decentralised, Permissionless and Censorship resistant. What kind of cashless society do we want? We can be giving beggars money via QR Code.

We need to investigate what we can develop.

“The most important contribution you can make is to find ways to prevent too much data from being centralized in too few hands…” — Yuval Noah Harari.

We can fight the Panopticon and have a decentralised system.
People feel disoriented. Collectively we are looking for something external to guide us through.

Tomas Björkman

Tomas Björkman is an applied philosopher and social entrepreneur. He is driven by a desire to unlock the hidden structures of the world. Tomas has committed himself to facilitating the co-creation of a more conscious society.
We are upgrading our society through peaceful change, upgrading society through inner, personal development.

The biggest regrets of the dying aren’t about working. Most people wish they had the courage to not live the life others expected of them. There is a connection between our inner personal development and societal change.

We are developing our minds through transformative skills. These are openness (a curious mind), meaning making (seeing the larger patterns), perspective seeking (understanding someone else’s perspective), self-leadership (the courage to be authentic), compassion (caring enough to act).

In a shrinking world, cultural changes are important.

Science is telling us that all abilities and skills are things we can develop. We can increase our compassion. Developing skills requires deep wiring transformation.

Case Study: The Nordic Secret - how do successful societies adapt to an exponentially changing world? 150 years ago, Nordic Countries were the poorest in Europe. Denmark, Norway and Sweden are now in the top 10 wealthiest countries.

In times of uncertainty and rapid change, humans turn to something or someone outside of themselves. That can be religion, an ideology or a particular leader. 150 years ago leaders were totally committed to building strong democracies from the bottom up. We need to find an inner consciousness to become leaders of the emerging new society.

In the 1860’s in Sweden retreat centres were created for personal growth. Between 1860 and 1900 grew to be 100 retreat centres where people could spend up to 6 months in retreat. The goal was to find their inner compass. The retreat gave the participants knowledge of the new technologies and gave them a sense of their place in culture and history.

We are at the end of the modern era. There is an inability to handle the increasing complexity of our world. People feel disoriented. Collectively we are looking for something external to guide us through it.

This new upgraded, networked society will not happen automatically. We need to be conscious cocreators. The change will involve a lot of inner personal development. We need to accept the responsibility for creating the future.

Rosa Parks was an American activist best known for her role in the Montgomery Bus Boycott. She has been called the first lady of civil rights. On December 1, 1955 she rejected the bus driver’s request to relinquish her seat in the coloured section of the bus to a white passenger, after the whites-only section was filled. In an interview with Rosa Parks, she stated that she knew that she should keep her seat. What gave her the inner strength? She had spent time in Tennessee in a 6-month retreat. Miles Porter started 4 retreat centres for inner growth.
We must focus on how we move people from fear, to hope and excitement.

John Hagel

John Hagel is Co-Chairman at the Center of the Edge Deloitte. He has spent over 35 years in Silicon Valley and has experience as a management consultant, entrepreneur, speaker and author. He is driven by a desire to help individuals and institutions around the world to increase their impact in a rapidly changing world.
• The Dark Side of exponential technology is that we cannot have technology without mounting performance pressure. The impact of digital technology is in the reduction of barriers of entry. Problems and opportunities should be identified immediately wherever they emerge throughout an organisation. There is an unlimited amount of work in addressing unseen problems and opportunities.

• Product life cycles are compressing at a ridiculous rate. The question is "what's next" "how long before that's in the market?"

• Mounting pressure comes from the increasing amount of fear in the populations around the world. What is the emotional impact of the fear? Fear makes us risk averse.

• Organisations are redefining work yet no company has redefined work for the workers, keeping the workers where they are but redefining the work that they do. Win or lose, trust is eroded. Institutions are increasingly not aligned with the world that we are in.

• What is the industry you are in likely to look like 10 to 20 years from now? What do we need to become? What can we pursue in the next 6-12 months? What’s the time frame?

• In the Zoom Out - Zoom In approach to strategy, the focus is on two time horizons in parallel. Zooming Out is the 10 to 20-year time horizon. 10 to 20 years from now what is a relevant market or industry likely to look like? What kind of companies will there need to be in 10 to 20 years from now to be successful in the new environment. Zoom in is the second time-frame of 6 to 12 months. What are the 2 to 3 business initiatives that would have the greatest impact in accelerating moving from where we are today to where we need to be 10 to 20 years from now? Is there a critical mass of resources against those initiatives? What are the metrics that will be used to measure success in 6 to 12 months? The approach forces leadership to challenge assumptions.

• Everyone is spread way too thinly and driven by a sense of destination. The focus needs to be maintained in a rapidly changing world.

• Large institutions will still exist into the future, but they will be driven by scalable learning. In an exponential world organisations will require scalable efficiency. There is a common element to working in large institutions and that is the routine tasks that are tightly specified and laid out in the process manual. This leaves no room to test new approaches. A prison has been created.

• What if we took Design Thinking and design methodologies and applied them to ourselves? LiveOps undertook a work environment redesign. They have no call centres but rather everyone works from home. Workers were encouraged to ask for help when they had performance issues. LiveOps rewarded workers that emerged as coaches for those having trouble. They found that performance accelerated as workers helped each other.

• Bill Joy said that no matter how many smart people you have within your organization, there are more on the outside.

• We need to rethink transformation. Transformation is one of the most used words in business today. We are applying Digital transformation programs do scalable efficiency. Rethinking should go back to, “what business should I really be in?” If you believe transformation is a rational process - you have already lost. It is fundamentally a political process.

• Businesses currently see 3 objectives. a) Identify and neutralise the enemies of change b) Identify and strengthen the champions of change c) The Art of War! Yet if you have to engage the enemy in battle, you have already lost the war. Resist that temptation.
Take Outs

• Postpone confrontation as much as possible. Work it so the battle isn’t necessary. Embrace a Big Bang top down approach to transformation.

• Transformation - scaling the edge - find an edge in the business that has the potential to scale so that it could become the new core of the business. Focus on driving transformation through the edge, not the core. Avoid the immune system and antibodies coming in to crush the transformation. Have a trusted advisor. Create a new business unit around it.

• There is a growing amount of fear in workplaces. It is best to recognise that fear and not hide it. We need to focus on how we move people from fear to hope and excitement. Zooming Out, identifying an opportunity that can inspire and excite people. Then Zooming In and finding opportunities that can be taken up immediately.

• Work must be redefined. The real job now in organisations is to identify problems. It is imperative that employees don’t wait until after a shift is over to file a report on a discovered problem. As soon as a problem is identified, empower people to solve it. If the individual who discovered the problem can’t solve it, make sure they understand that the business will provide a team to help them solve the problem. They then understand they are not simply cogs in a machine, but rather they make a real difference.

• Educating the mind without educating the heart is no education at all - Aristotle.
• Nothing teaches like teaching. Teach what you know and share information. Do not expect to convince everybody though. If you do, you will lose a lot of energy and with it, a lot of momentum.

• The most difficult minds to change are those of 1. Your mother 2. Your Government 3. Your Boss 4. Yourself.

• Why is it so hard to change minds? Everyone is searching for stability. Unlearning is emerging as a new core competency. We are never taught how to unlearn. Governments have a hard time unlearning.

• We don’t do anything well that we don’t do badly first. We need to approach unlearning empathetically. We need a new way of thinking for our economy to do well.

• With regards to self-driving cars, an Uber car killed a woman walking the street. In the total driving hours that had been accumulated, 100 humans would have been killed by human driven vehicles. When humans have an accident, the individual is the only one that learns from the mistake. When a self-driving car has an accident, AI means that all cars learn from it.

• Some believe that Martin Luther King was assassinated because he instigated discussions about UBI (Universal Basic Income).

• Almost without exception there is a threefold increase in entrepreneurship when basic needs are covered with a form of UBI. People are more inclined to take risks. By 2030 every country will have had a debate about UBI.

• The narrative of technology is both empowering and frightening.

• The best and the worst are yet to come. Technology is amplifying the extreme highs and lows of our lives. Average is no longer the most common outcome.

• Greece should be considering Structural Reform – Tax, Labour, Bureaucracy.

• Greece needs to consider Educational Reform – prepare for high adaptability.

Don’t try to convince everybody. They will be convinced soon enough.
• Greece needs Investment Reform – R&D to leverage technologies

• Your Reach Exceeds Your Imagination. Greece can reach more at an individual, organisational and country level.
There is an epidemic shortage of imagination. The biggest risk is not thinking big enough.
Innovation = Unlearning

• The world fears irrelevance - will you stand the test of time?
It’s about beauty, relevance and impact.

• Intelligence is hitting a target that nobody else can. Genius is hitting a target that nobody else can see.

• One year from today what will you regret?
What will you regret not starting? What should you have started that you didn’t, both professionally and personally.

• You will feel lonely and impossible for a while. Just remember eventually Impossible becomes I’m possible.
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