NEVER NORMAL

A CALL TO ACTION TO ADDRESS
THE NEW REALITIES POSED BY COVID-19

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May 2020

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Table of contents

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Acknowledgments

Acknowledgments

I want to extend sincere appreciation and heartfelt gratitude for the significant efforts this diverse and multidisciplinary COVID-19 Strategy Group has undertaken. The self-imposed schedules and deadlines associated with this report--and the process itself that generated these initial conclusions--have been challenging and critical. The team went above and beyond the call of duty to ensure all benchmarks were met in an effective and timely fashion.

COVID-19 has already severely affected lives, livelihoods, economies, and societies globally, and will likely continue to exact a heavy toll in ways we have not yet seen. Governments from wealthy countries have introduced measures to support families, workers, and companies in an effort to prevent their healthcare systems and economies from collapsing. At this writing, indications of what could become even more acute human suffering and economic hardship are surfacing in developing countries with less resilient health care systems and less freedom to maneuver when it comes to economic policy.

It appears more waves of the pandemic lie ahead. With each new wave, there will come new consequences, whether from COVID-19 and its variants or from other contagions to which we are vulnerable.

Medical institutions worldwide are racing to create therapeutic treatments for COVID-19. However, until an effective approach to increase the level of immunization in the world population and/or mechanisms to undermine the capacity of the virus to replicate are created, it remains unclear how long the disruption to our economies and societies will last. In the meantime, the devastating human toll will continue to mount.

It is therefore urgent that we mobilize all resources to address the constellation of scientific, economic, governmental and social uncertainties attendant with COVID-19. This team--and the cross-industry experience, problem-solving skills, and creativity it represents--was created to contribute to the state of thinking. It was challenged to brainstorm viable strategies and solutions to address the virus and to explore initiatives that can and should be taken to sustainably protect human health and economic livelihood.

The conclusions presented here are only a first step in the process that we have identified for ourselves and mankind. More will come from this initiative in subsequent phases. **If nothing else, we hope to trigger an informed and comprehensive debate on the pressing options we now face, and to enlist broad, constructive public engagement in this global challenge.**

Dr. Omar Hatamleh

EXECUTIVE CHAIRMAN,
CROSS INNOVATION
STRATEGY GROUP

May 2020

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Executive Summary

Executive Summary

- In April 2020, as the COVID-19 pandemic was inflicting massive human-health and economic hardships in societies around the world, more than seventy engaged leaders, representing a wide range of backgrounds, occupations, nationalities, and beliefs, created the Cross Innovation Strategy Group.

- The mandate of the Group was to ideate, co-create and come up with solutions intended to improve our respective predicaments during the sweeping challenge of COVID-19. The underlying assumption of those deliberations was straightforward: The world will never be the same post-COVID-19. We needed to think in "never normal" terms as opposed to the static notion of "new normal" or the inconceivable return to the old, pre-COVID-19 normal. Hence, the title of this document.

- Ultimately, we hope our Group will grow both in numbers and influence. And, above all, we hope to generate new and creative thinking on weathering the pandemic and its many consequences. We seek to be a positive and constructive force--perhaps even a broad-based movement--in working to improve the quality of life in our respective communities around the world.

- This document is the first outcome of the Group's deliberations. It sets out the guiding principles by which the Group has agreed to operate. It also advances a pledge that commits its signatories to follow scientific and fact-based guidance; comply with social distancing, face mask use guidelines and such other best practice recommendations which may emerge to protect public health; support the education of communities on the threats posed by COVID-19; and release personal information so that others can learn how to mitigate the COVID-19 pandemic and prevent future pandemics from emerging. We encourage you to join us.

- Much more needs to be done In the future, we anticipate additional rounds of brainstorming along with concrete actions on associated proposals that can have a positive impact.

- We have different backgrounds and points of view, but we are united in the belief that innovative, imaginative, and fact-based thinking along with concrete action to bring ideas to fruition are essential to providing a better future for our children and grandchildren.

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Introduction

Introduction

The sudden and terrible arrival of COVID-19 has turned our world upside down. It is taking our loved ones, friends, neighbors, colleagues, and community members. It is forcing people in vast numbers to fight for their lives. It is overwhelming healthcare systems. It is inflicting acute economic hardship on populations whose livelihoods have been threatened by extended lockdowns. It is revealing serious weaknesses in health care systems and global supply chains. And it is exposing profound fault lines within and between citizens and leadership the world over.

Tragically, more human suffering and economic dislocation are yet to come. The initial spread of COVID-19 from its point of origin in Asia followed by Europe and the United States, where countries have endeavored to move the trauma to the future by working to limit the massive stresses on their healthcare structures and cushioning the devastating economic effects with fiscal and monetary policies. Even with those capabilities, as we are all painfully aware, the human costs have been staggering. The next stage of the virus will include many developing economies -- some with large populations and high demographic densities -- that do not have the same healthcare levels and economic freedom to maneuver. In addition, there are concerns about another, and perhaps even more intense wave of COVID-19 at the end of 2020 that could further affect developed and developing societies alike.

As the awful human toll caused by COVID-19 continues to mount, and as the staggering economic consequences of lockdowns and other constraints on economic activity continue to grow, the need for fresh and innovative thinking on how to proceed could not be overstated. The reality we face is that some six months after the first reports of the virus, we still do not fully understand key dimensions of the disease. In addition, many of the evolving global strategies are struggling simply to keep up with the massive policy challenges presented by COVID-19. Many may not be grounded sufficiently in science-based knowledge, as incomplete as it is, or in multidisciplinary analysis.

For these reasons, we believe that there is a pressing need to mobilize a diverse group of forward-thinking individuals, leaders in their respective fields, to envision how societies might be more effective in addressing the tremendous complexities associated with the COVID-19 virus. To that end, we have established such a group, the COVID-19 Strategy Group, consisting of 70 respected and accomplished thought leaders from industry, government, academia, and the private sector. We are physicians, scientists, technologists, professors, government and business leaders, consultants, and researchers from multiple countries, cultures, and backgrounds, all committed to the notion that each of us needs to contribute however possible to a better future.
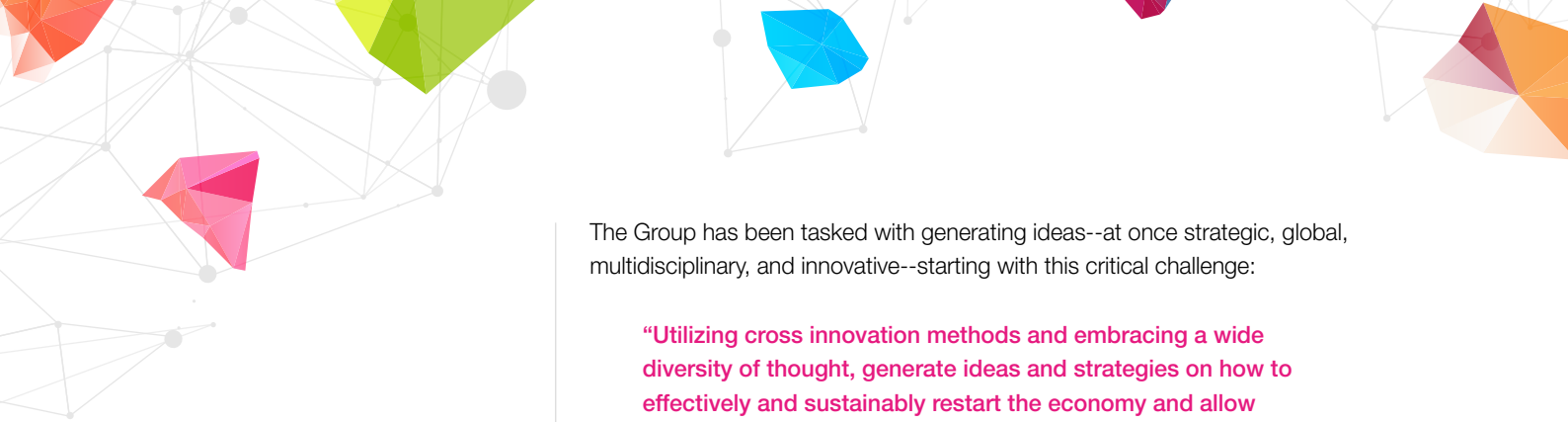
"
Dynamic Problem
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Dynamic Solution
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8

The Group has been tasked with generating ideas--at once strategic, global, multidisciplinary, and innovative--starting with this critical challenge:

> **"Utilizing cross innovation methods and embracing a wide diversity of thought, generate ideas and strategies on how to effectively and sustainably restart the economy and allow people to return to work while minimizing the further negative impact on their health and wellness."**

Ultimately, we believe, the only approach to successfully addressing such an urgent challenge is to consider innovative approaches that can respond to, adapt with, and ideally, get out ahead of the changing nature of the COVID-19 phenomenon and its consequences. As a result, the Group has agreed to assign priority to ideas, concepts, options, and solutions that are as dynamic and complex as the threat itself.

By definition, this implies a process. No static report or isolated theory can begin to rise to the enormity of the task. Instead, an evolving strategy based on genuine, holistic thinking--an ever-widening "platform" for broader engagement--is necessary for the Group to meet its mandate. Our goal is to generate innovative and relevant ideas and then to engage, energize, and help enable appropriate public, private and community-based stakeholders throughout the process.

Our hope is also that the deadly epidemic we are experiencing will redouble our awareness that we live in a world that is at once uncertain and challenged. The belief that free competition and economic growth are a universal social panacea that may fall short of meeting the growing needs of a global community at risk.

We will proceed in two phases. In the first phase, as a critical point of departure, we have compared notes on the scope, nature, and urgency of the COVID-19 threat; considered a number of diverse perceptions and ideas; discussed the elements of an overall strategy; and developed the Call to Action advanced in this document. In the second phase, we will continue to pursue innovative ideas and approaches on a multidisciplinary basis, monitor best practices, and pursue specific solutions when possible. Furthermore, we will build and continuously expand our platform by leveraging our networks and mobilizing the power of a growing community of supporters united against the common threat we seek to overcome.

Five key considerations shape our initiative:

- **Our proposed solutions must be global.** We stipulate that the challenges of COVID-19 vary widely across societies and economies, but nevertheless believe that the global nature of the pandemic requires nothing short of a global response. Just as there are "no atheists in foxholes," there can be no isolationists in an effective campaign to stop or prevent global pandemics.

- **We cannot examine the COVID-19 threat in static terms.** The holistic assessment we look to develop requires us to look at the pandemic through multiple time horizons. As a result, we have framed our approach by looking independently at the one-month, 3-6 months, and one-year+ time frames.

- **Our objective must be to generate unique and innovative ideas on a timely basis.** We will avoid areas of inquiry in which other groups are already actively engaged (e.g., medical equipment/PPE production, testing, contact tracing, therapeutics), and assign priority to areas in which we can offer fresh insight and perspective to the myriad issues confronting us. In addition, we will encourage

Everybody is Affected
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Everybody Must Be Involved

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Diverse & Innovative Group
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Unique & Unexplored Solutions
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out-of-the-box, creative thinking that might run contrary to conventional thinking and established positions and biases. Cross-industry innovation methodologies will be employed to arrive at unique and innovative contributions.

- **Whatever impact(s) we can achieve must be sustainable.** We will put a premium on structural solutions that address not only the immediate challenges of the COVID-19 threats but also the specter of similar pandemics in the future. This goes beyond a "triage" exercise, as important as short-term solutions are.

- **We must focus our efforts on developing widespread public support.** We are more likely to have a significant impact by focusing our efforts on facilitating "bottom-up" behavior rather than seeking to influence "top-down" government policies. Silos--academic, scientific, R&D, regulatory, intellectual property, supply chain, manufacturing, governance--must be bridged in order to accelerate global responsiveness and resilience in the war against this and future contagions.

In the final analysis, this document is a mere down payment. The hard work is ahead. We need to develop, filter and assign priorities to the various proposed solutions we generate. We need to explore ways to activate new institutions and processes to help achieve positive outcomes. We need to create and strengthen a platform with a view to increasing our impact. And we need to continue our work in the face of the extreme volatility attendant with COVID-19.

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Guiding Principles
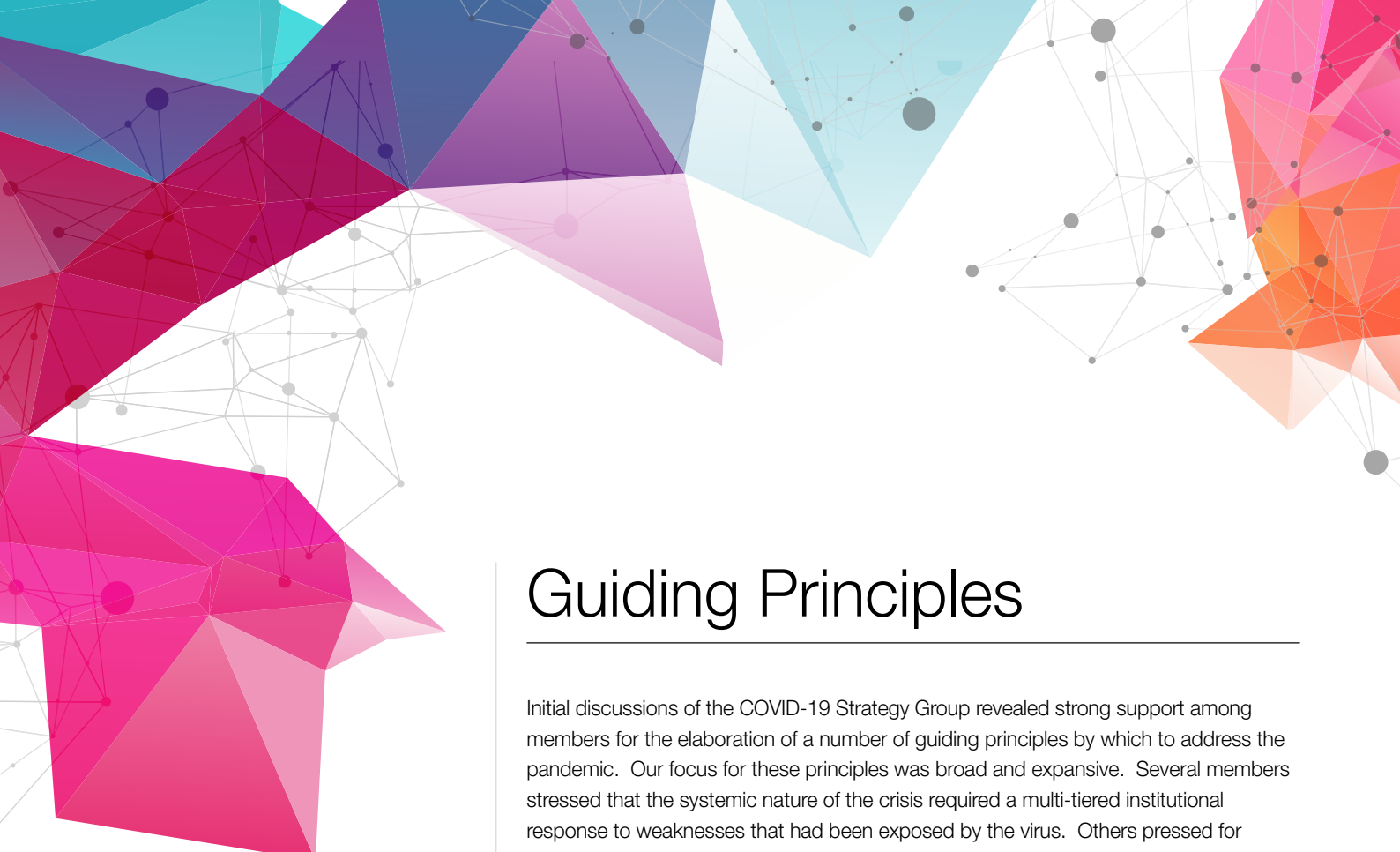
Guiding Principles

Initial discussions of the COVID-19 Strategy Group revealed strong support among members for the elaboration of a number of guiding principles by which to address the pandemic. Our focus for these principles was broad and expansive. Several members stressed that the systemic nature of the crisis required a multi-tiered institutional response to weaknesses that had been exposed by the virus. Others pressed for greater alignment by individuals, rather than institutions, on how they responded to the unique circumstances generated by the virus. Still others emphasized the strategic opportunity presented by the virus with respect to transforming systems in the future "never normal" (in contrast to "new normal") environment.

What was clear in all the discussions, however, was the need for a "reset" across a wide range of ten guiding principles, as follows:

- **Call for common language and conceptual framework.** In order to develop common ideas and to forge a common approach to addressing the current and future pandemics, it is necessary to develop, and then secure, comprehensive buy-in for the ways in which pandemics, current and future, are detected, reported, assessed, researched, contained, and addressed. This should be developed in a way in which no single entity or entities "own" the process; instead, the idea was to "open-source" the process in a way that it becomes a common cause.

- **Call for stronger institutions.** Participants stressed how the coronavirus had revealed profound challenges in many of the institutions charged with preventing--or, if not, addressing--the kind of horrific circumstances in which we now find ourselves. The requirements here are daunting. It is not only a question of shoring up existing institutions and practices to meet the realities of a pandemic, but also of creating new frameworks to help mitigate future repeats of our current predicament. This implies addressing the major themes of resilience, efficiency, and antifragility in both existing and new frameworks. It also means forging new areas of collaboration between global, national, and local groups.

- **Call for greater trust and safeguards.** The pandemic presents in an environment marked by rising tension and conflicts at many levels, under circumstances in which trust in institutions, ranging from government to universities to non-governmental organizations (NGOs) to the media to the private sector, is a sine qua non for addressing crises spawned by this contagion. We also believe a growing "infodemic" in social media may be undermining understanding and knowledge of the challenge, generating the need to create conditions for higher levels of trust and cooperation.

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Stronger
institutions
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Higher Resilience
and Effectiveness
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"
Free Flow of Information
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More Rapid & Effective Responses
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- **Call for data transparency.** It is impossible to develop an authentically global approach to addressing the pandemic without the exchange of timely, comprehensive and accurate information. Information and data silos are contrary to the free flow of data, information and knowledge that is essential to both improving therapeutic treatment of those already infected by COVID-19 and to manage the needs of those populations not yet affected. Similarly, a free and full flow of information is essential for research and development of effective therapeutic interventions, vaccine development and other disease management/prevention initiatives.

- **Call for innovative application/mobilization of technologies.** With the benefit of the remarkable development and diffusion of new technologies and improved technological capabilities, the potential exists for wholesale new approaches to addressing COVID-19, from research to monitoring, testing, and treatment. A number of potential new applications of supercomputing, AI, and wearables were identified as potential examples of new and important contributions to responding to the pandemic. Certainly, the critical position occupied by social networks during the pandemic represents a significant opportunity for channeling positions and messaging. However, these and many other areas of technology have yet to be fully leveraged.

- **Call for partnerships.** New and innovative partnerships, participants stressed, will be critical for dealing with future challenges associated with the COVID-19 crisis, starting with the anticipated impact on developing countries already hamstrung by more limited healthcare and economic resources than the developed countries. There must be greater collaboration across organizations and individuals. Players from different fields (such as scientists, doctors, data scientists, journalists, teachers, business leaders, engineers, innovators, etc.) must find new ways to exchange ideas, data, information, seek answers to critical questions, and discuss specific COVID-19 challenges in their respective fields.

- **Call for more prevention.** Tragically caught ill-prepared, most of the world has been in reactive mode in dealing with the COVID-19 pandemic. In parallel to the urgent and immediate requirements of responding to the virus, we can and should be developing insights and ideas on how to prevent another COVID-19. Such ideas and efforts must be strategic in nature. They must also be sustainable from the standpoint of resources and mandate. Prevention of future crises must be a high priority.

- **Call for greater imagination.** Clearly the current dire conditions tend to constrain out-of-the-box thinking, but it is arguable that such innovative thinking and approaches are now more important than ever. A possible departure point is the development of new and more robust global capabilities geared to addressing future pandemics.

- **Call for greater vision.** We must learn how to apply the lessons learned from addressing the many challenges of COVID-19 to implementing those structural changes central to preventing similar future such crises. Perhaps the post-virus environment could provide the opportunity to strengthen our family and community relationships, to redefine our healthcare, to improve the physical environment, to enhance the educational system, and to reconsider production and consumption of goods and services. Perhaps we could reconsider "what really matters." If nothing else, the awful costs associated with COVID-19 should force us to think about the conditions we leave to future generations.

- **Call for greater engagement.** As reflected in our bottom-up approach, individuals, and responsible organizations are at the core of what comes next.

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Pledge

Pledge

We start with a pledge. The Strategy Group supports developing a pledge intended to engage individuals the world over. The goal is to trigger a movement that includes key figures from science and medicine as well as artists, business leaders, religious guides and others representing all aspects of society, not least the public at large whose lives and livelihoods have been so tragically and broadly impacted. This is to be done under the umbrella of the following seven tenets:

- **Unite ("Find common cause"):** We must begin by recognizing that no matter what our differences, we are all fighting to the same end, regardless of how we ultimately determine we must get there.

- **Protect ("Do no harm"):** We share a social responsibility to ensure that no one else is harmed by our actions, whether due to the spread of the virus or from economic hardship. We can commit to practicing good hygiene, observing social distancing rules, and self-reporting and isolating ourselves from others upon becoming symptomatic (daily self-monitoring) or infected with the virus. Similarly, businesses are encouraged to ensure that workers have adequate personal protective equipment, testing, and sick leave in place so they can return to work without fear or stay home when sick.

- **Understand ("Seek the truth").** In a period marked by misinformation, and misology, it is more important than ever for us to ensure that our debates and discussions are informed by fact-based, evidence-verified, and scientifically grounded points of view.

- **Connect ("Reach out daily"):** We must actively reach out to and connect with our family, friends, neighbors, colleagues, and employees to provide support in this difficult time. This can be done in the form of simply educating, but especially by providing emotional and financial support for those infected and/or in isolation.

- **Volunteer ("Offer your expertise"):** There is a pronounced need for all of us to offer whatever skills, expertise, or knowledge we possess to help move us beyond the pandemic. Specifically, this could include supporting projects; reinforcing open-source (through software or data); contributing to open collaborative structures (such as Wikipedia); supporting cross-functional efforts across diverse industries and areas; or providing guidance to scientific, R&D, regulatory, IP supply chain, manufacturing, and governance authorities.

- **Contribute ("Support efforts at containment"):** We can all contribute to testing and contact tracing efforts. Employers should ensure that their active employees are tested as soon as testing is available to them (on-site weekly or even daily testing if it can be scaled up). Individuals not part of the workforce should seek out testing quickly if they become symptomatic or come into contact with a known positive case. This in turn can be helped by opting into contact tracing programs that respect privacy. Individuals who

test positive should voluntarily inform their recent contacts. It is also our expectation that whatever measures are put in place to protect public health will respect civil liberties and the individual's right to privacy, and that these measures will be suspended at such time as they are no longer serving a legitimate public health function.

- **Collaborate** ("Promoting continuous exchange"): Players from different fields from across the world could exchange ideas, data, information, ask questions, and discuss specific challenges in their respective fields pertaining to COVID-19. This should be an open resource to the public.

- **Reconstitute ("Envision significant change"):** Taking account of the immediate health and economic challenges posed by COVID-19, the need to imagine ways to avoid a COVID-19 pandemic in the future is compelling.

In our judgment, these elements capture what a wide segment of society should be willing to accept and should reasonably expect. Assuming this initiative can enlist a wide enough base of public support with signatories from around the planet, the hope is that we could influence the broader political debate.

Pledge of Conduct

- **Find Common Cause.** I pledge to recognize the global nature of the pandemic threat we all face. Furthermore, I acknowledge that the COVID-19 pandemic has caused massive human suffering and economic hardship in societies across the planet.

- **Do No Harm.** I pledge to follow scientific guidance how my actions can reduce the spread of the virus. I will follow social distancing guidelines wear face coverings as appropriate wash/disinfect myself and my surroundings and minimize exposure to others when I start feeling sick, especially to high-risk individuals, such as the elderly.

- **Connect with Others.** I pledge to educate myself about organized initiatives to fight this pandemic and to volunteer to support them when and where I can. Furthermore, I pledge to advocate this Pledge of Conduct to members of my community with a view to having them join the effort.

- **Volunteer.** Acknowledging that the impact of the pandemic is disproportional, I pledge to reach out to help others who are in need of my support. To more effectively confront the virus, I will also contribute to the free flow of data, information and knowledge.

- **Contribute to Transparency.** I pledge to share knowledge with others. I will be open with information about myself and my behaviors to reduce the spread of this disease. I will let others learn from my data to invent new technologies to fight COVID-19.

- **Collaborate.** I pledge to pursue collaboration with other individuals and organizations so that we can more effectively address the threats posed by the virus.

- **Work to achieve a more benign post-virus environment.** I pledge to channel my energies into preventing pandemics like COVID-19 from recurring in the future. To that end, I will support efforts to strengthen research and analysis of ways in which humanity can prevent another pandemic like COVID-19, or other kinds of pandemics, from happening.

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Entering the Never Normal

Entering the Never Normal

The world, our perceptions, and our way of life will never be the same. Whether you are in New York, Kolkata or Dunedin, you will do things differently from now on. There is no return to normal. There is no "new" normal. That is why we are calling our new reality **The Never Normal.**

We believe that this inflection point is an opportunity to build a better world. It should first be a moment to stop and reflect--to take stock, to pause the accelerated rhythm of our new lives, and to consider the value that we bring to those that we care about, and to our planet.

We cannot squander the opportunity. It is our responsibility to redefine our predicament--not only the circumstances that have led to COVID-19, but also to several other compelling challenges that humanity faces.

Assumptions and Open Questions

Some of the **assumptions and open questions** underlying our ongoing examination include:

1. Even though there are news reports about a vaccine in the near future, it is unlikely that we will have a vaccine earlier than 12-24 months. We must remember viruses are hard to inoculate against. For example, although HIV is today controllable as a chronic condition, there is no vaccine even after more than forty years.

2. The profile of infections is likely to be a series of "smaller Ws," with recurrent waves of infection and reinfection and consequent--undermining confidence in economic continuity and growth.

3. We will have to assume that we will have contagious people in our midst for some time, and therefore social distancing, extreme hygiene and other measures will continue to be necessary.

4. Since the COVID-19 pandemic is global, it is most likely that the solutions will have to be global or at least regional in so much as they will affect multiple countries, multiple industries, etc.

5. Governments are becoming "bigger" and more interventional as a result of the pandemic, and that higher profile is unlikely to fade rapidly, if ever.

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6. There are most likely a number of behaviors that this crisis has altered that will never come back to the levels and patterns of the past, including (but not limited to):

   a. Business Travel: Now that people have become accustomed to virtual, remote meetings, it is unlikely that we will go back to the levels of 2019.
   b. Conferences, Symposiums, Congresses: These big agglomerations of people are not likely to reappear in the short term, posing questions about future mechanisms of knowledge dissemination and industry networking.
   c. Concerts, Festivals, Sports Matches: Live audiences will most likely be severely curtailed and these will become a virtual experience. What will this mean for the advertising and media industries, and the viability of sports leagues and the entertainment industry?

7. The lockdowns are generating some welcome positive results, such as improvements to the physical environment. Many cities are now closing down their centers to vehicles in order to help with distancing, but this is also helping with air quality. These policies are likely to persist beyond the crisis.

8. Certain industries are carrying on "as usual" because they are **required to** (And we can learn from them what they are doing to be able to remain open.) and many sectors have seen a huge increase in business with further potential for growth, such as logistics/transportation , ecommerce, 3D printing, food delivery, virtual meeting and communications, medical device, energy, streamed media and entertainment, and telecommunications.

9. Big tech companies (like Google, Tencent, Apple and Facebook) are shaping and influencing policies on subjects like "contact tracing" and "business planning and ethics." Subsequently governments are adopting some of these industry-set standards.

10. The trend towards "resiliency" of supply chains, through which countries tend to become more self-sufficient in production of certain "critical" goods (masks, hand sanitizer or respirators) or their raw materials, will likely continue to intensify.

11. Capital will continue to leave developing countries and commodities across the world in response to the supply shock, which is already far larger than what we have seen in 2008-2009.

12. Financial institutions, in general, are better prepared (better capitalized and stronger) to handle a crisis than they were in 2008. Still it is an open question: Will it be enough?

13. There will be a larger need for appropriate tools and skills training for a workforce that might be subject to undefined periods of lockdown under consecutive infectious waves. These issues, if addressed correctly, may pay off in increases in both efficiency and effectiveness.

14. The social needs of people to meet and enjoy time away from work also must be addressed. We know that both the abatement of the 1918 influenza and the post-war recession gave birth to the Roaring Twenties. People will want to party, celebrate and enjoy their time together, even more so among the younger generations.
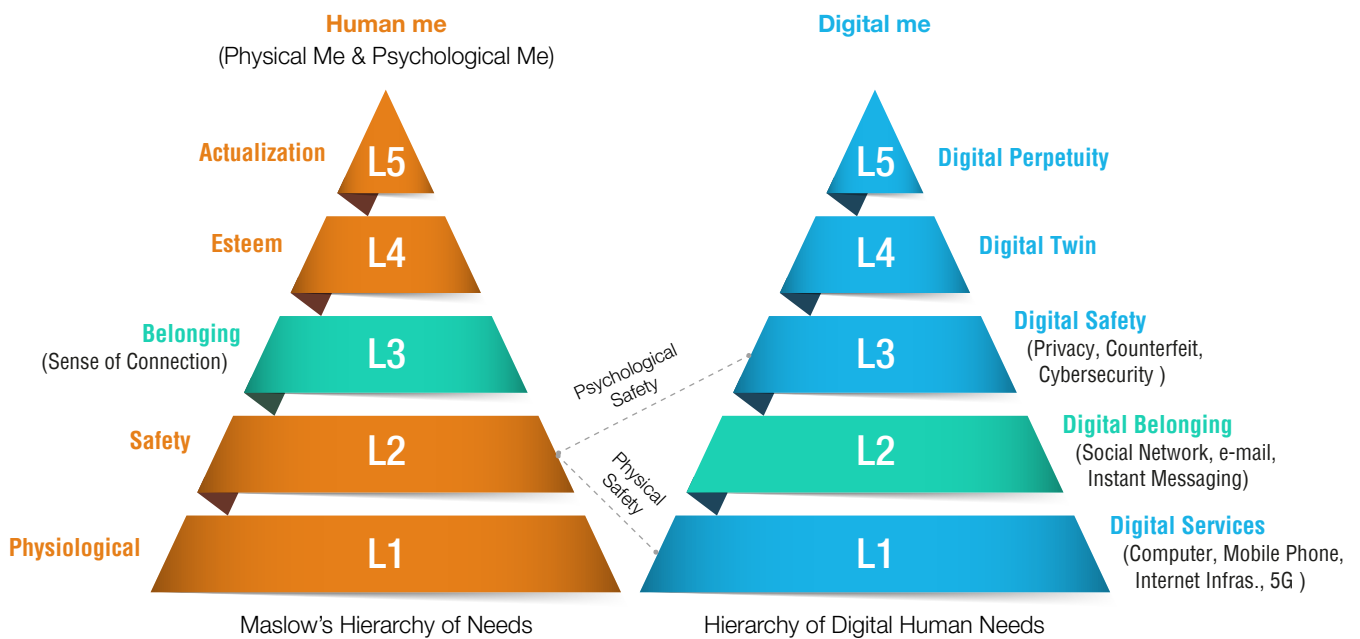
Rebalancing Human Digital Needs

Rebalancing Human Digital Needs

Society is increasingly following a digital-first strategy, working against the clock to migrate physical circulation into digital circulation, hoping to slow down the COVID-19 pandemic growth curve. The digital giants are becoming an even more important component in this effort.

COVID-19 caused the strategy group to investigate more deeply how humans behave digitally when fulfilling basic needs such as health, infotainment, education, safety, and more. A key finding in this research was that leaders must acknowledge what we call "the dissonance of digital human needs" (Figure 1). Considering how humans behave digitally now—and how they might in the future—will help executives unlock new ways of thinking and spark innovation.

Human me
(Physical Me & Psychological Me)

Digital me

Actualization	L5	L5 — **Digital Perpetuity**
Esteem	L4	L4 — **Digital Twin**
Belonging (Sense of Connection)	L3	L3 — **Digital Safety** (Privacy, Counterfeit, Cybersecurity)
Safety	L2	L2 — **Digital Belonging** (Social Network, e-mail, Instant Messaging)
Physiological	L1	L1 — **Digital Services** (Computer, Mobile Phone, Internet Infras., 5G)

Psychological Safety

Physical Safety

Maslow's Hierarchy of Needs   Hierarchy of Digital Human Needs

Legend: 21st century Low Level Basic needs: Shelter, Food, Clothing, Healthcare, Wellness, Education, Energy, Physical Safety.

Figure 1: The Dissonance of Human Needs
Source Gartner 2020

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21

In the last decade, people have used the internet and various services (social networks, texting, dating sites, infotainment, email, et al.) to experiment and elevate themselves to a global sense of belonging, often overlooking the fact that we live in specific regions, countries, and locales. This has enabled the digerati (Amazon, Google, Apple, Facebook, Microsoft, Alibaba, Tencent, Baidu, et al) to dramatically increase their influence across global societies.
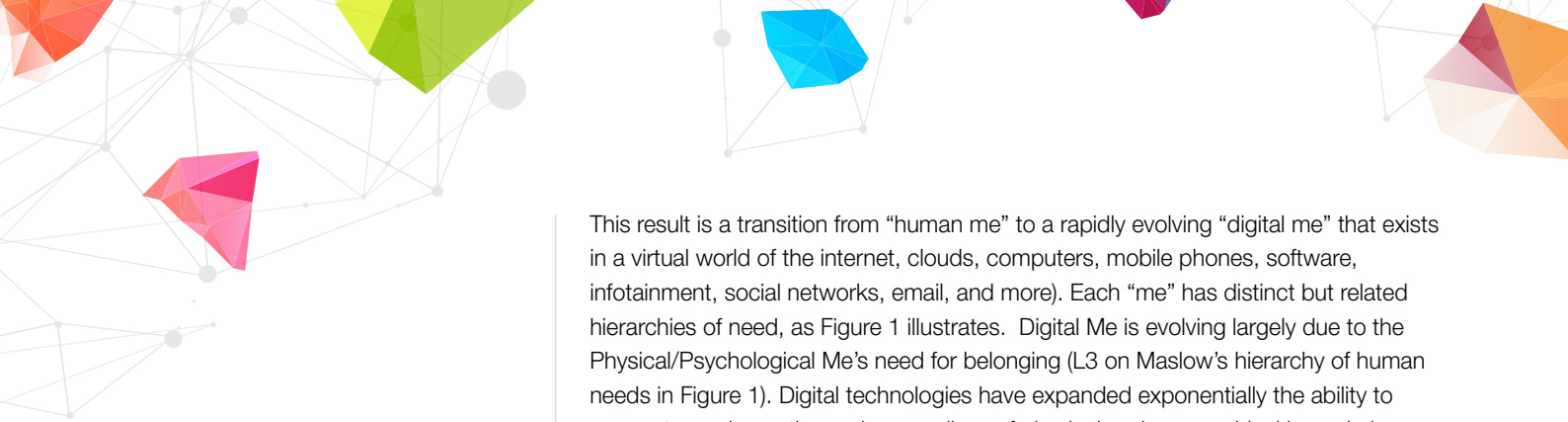
This result is a transition from "human me" to a rapidly evolving "digital me" that exists in a virtual world of the internet, clouds, computers, mobile phones, software, infotainment, social networks, email, and more). Each "me" has distinct but related hierarchies of need, as Figure 1 illustrates. Digital Me is evolving largely due to the Physical/Psychological Me's need for belonging (L3 on Maslow's hierarchy of human needs in Figure 1). Digital technologies have expanded exponentially the ability to connect people continuously, regardless of physical and geographical boundaries.

Only after fulfilling our need for digital belonging and the "techno-convenience" of procuring many of our physical needs online will we consider things such as digital safety (including privacy). But this is motivated by a basic instinct to achieve "belonging" (and perhaps even perpetuity) through Digital Me, without physical constraints, adding a new, tangential dimension to Maslow's hierarchy.

The COVID-19 pandemic is making humans more aware of the intimate relationship between higher-level needs—especially belonging—and the most basic needs required for survival. Innovative ideas suitable for the "never normal" will evolve by being conscious that the Digital Me is expressed primarily through the psychological need for belonging, now facilitated by almost unlimited frictionless global connections.

So, where is the downside? While governments recognize and even nurture humans' need to be part of an increasingly complex society, many are beginning to realize that digital service providers are gaining power. They are doing so not only by meeting digital needs but by increasingly controlling (directly or indirectly) and provisioning many basic needs, like food, healthcare, education, shelter, clothing, infotainment, and possibly even safety and energy.

Digital dissonance results from the illusion of being able to decouple physical constraints. The misalignment of safety needs between Physical/Psychological Me and Digital Me enables individuals, enterprises and governments to gain ever greater socioeconomic, physical and psychological influence (and control) globally.
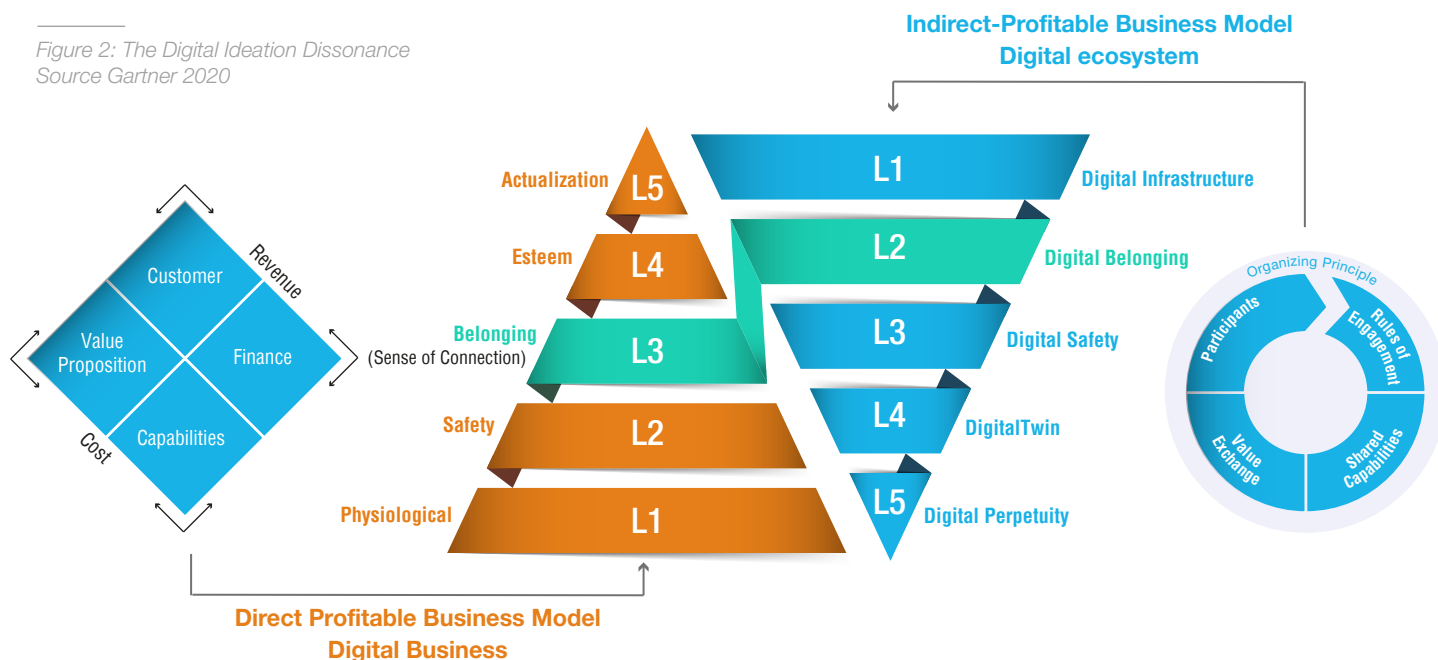

Figure 2: The Digital Ideation Dissonance Source Gartner 2020

When it comes to innovating, governments and traditional enterprises have what we call a "linearity bias" or constraint when structuring ideas for solving digital society problems or even defining their own digital strategies. We call this the "digital ideation dissonance" (Figure 2).

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For example, enterprises and governments often view technology as just another tool for adding to their existing value chains. They also consider the transformational potential of digital technologies as components of profitable business models (enterprises) or GDP growth (governments). By fulfilling human needs through the digital me, however, digerati innovate in a non-linear way by enabling digital ecosystems that facilitate indirect profitable opportunities.

COVID-19 is demonstrating the urgent need to break the linear versus non-linear way of thinking. Digital is not a solution for all pandemic issues, and it can create new vulnerabilities. However, it is critical to create a platform to raise awareness for bringing balance to any initiative sustainable for the "never normal". This is not about "market share" or "Digital Me share". This is about the human race and its evolution to achieve consonance by aligning the "Human Needs" with the "Digital Me" for achieving perpetuity in a sustainable way (Figure 3).

Hierarchy of Digital Human Needs

> "Governments and enterprises MUST be prepared for fulfilling the digitally augmented low level needs of Digital Societies."
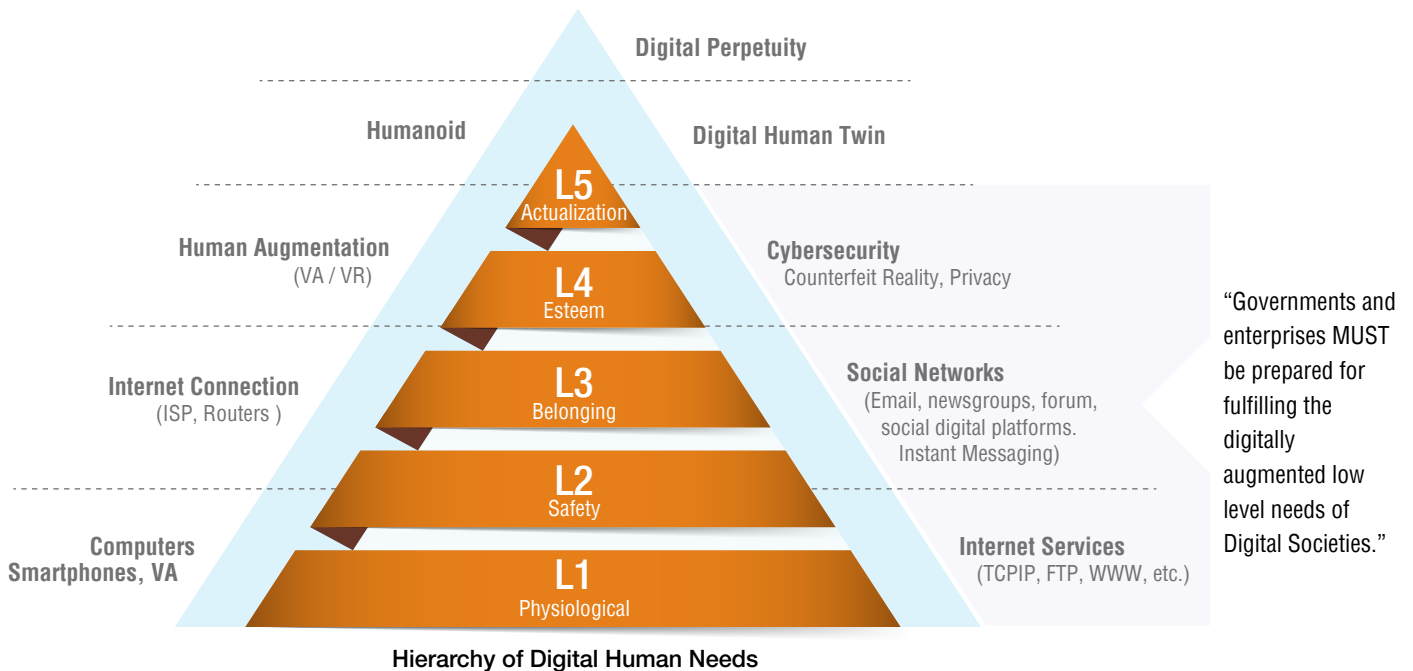
Figure 3: The Hierarchy of Digital Human Needs - Source Gartner 2020

If we fast-forward through the "never normal" COVID-19 crisis, and prepare for the next crisis, we must think about innovation in a way that transcends linear constraints—something that digital technology makes possible. Finding ways to collaborate effectively with the digerati to serve burgeoning business and society needs (especially for data collection, stewardship and analytics) will become a critical path.
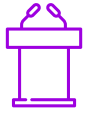
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Selected
Ideas

Selected Ideas

AI

01: AI-Triage
02: Predictive Modelling
03: Bayesian Group Testing
04: Virtual Assistants Quarantine Support

APPs

05: Crowded Areas
06: Capture the Cough
07: Smart Watch Tracking

Data

08: Collaborative Platform
09: Sewage /Wastewater-Based Tracking
10: Global Repository

Disinfection

11: FAR-UVC
12: Disinfectant Gloves
13: Sterilize the Air

Economic

14: Repurposing Activities
15: Venture Accelerators
16: Low Tax for Resilience

Political

17: Protection PPE Globally
18: e-Government
19: Global Pandemic War-Room

Standards

20: Understand Asymptomatic
21: Global Travel Standard
22: Blockchain Laboral Contracts

Supply Chain

23: Licensing 3D Components
24: Resilient Supply Chain
25: IP Licensing for Innovation

Social

26: Mental Stress Detection
27: New Digital Educational System
28: Run Social Experiments

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25

AI

Thanks to artificial intelligence, the capacity of the new state of the art models, the capability of processing massive volumes of data, better predictions and more precise forecasts will be able to improve the diagnostic stage, the risk profile, etc., of all of these critical aspects in this and future crises.

01:

AI-Triage
The medical care triage system is relatively naive. It has a blanket heuristic-based approach on which a doctor should or should not see patients. For example, They do not take into consideration an immunocompromised state, etc. The objective would be to build a system where healthcare records are better parsed, and the triaging system is automated and made more sophisticated to take into account the whole medical history. This mode of work would reduce the non-urgent visits and allow urgent appointments to have an open slot available. Keeping track of immunocompromised subjects' medical condition dependencies and have it open in every doctor's visit to proactively make them aware of such dependencies could prevent deaths.

02:

Predictive Modelling
Adopt predictive models systematically as a tool for generating future scenarios. The results of such models would allow multiple sectors to proactively design risk mitigation plans while limiting the impact of potential hazards. Anticipating the understanding of the consequences would also allow for the anticipation of actions to mitigate the adverse effects

03:

Bayesian Group Testing
GTBA (Group Testing using Bayesian Analysis) is a set of algorithms to be applied while performing RT-PCR tests to maximize overall precision while minimizing the number of individual tests performed. Previous pooling techniques proposed five-people testing groups with one positive and four negatives. This new approach groups, together as many low-probability-of-infection samples as possible up to 120, to discard them as unfavorable. Group testing, along with multiple samples per individual, provides higher specificity and sensitivity with much fewer tests. Combining PCR machine calibration tests iteratively with the prior probability of infection for each individual, and potentially adding relevant data about family/community infection status, the algorithm can now group the right samples.

04:

Virtual Assistants Quarantine Support
Virtual assistants are available in multiple platforms and formats. By updating the software that controls them, a service could be activated proactively, requesting information about family members' health and recording it. In a fast and orchestrated way, you can have millions of status data, and from there, you can make a much more efficient follow up of the detected cases.

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APPs

Mobile devices and the sensors embedded in them have more and more computing power. The growing connectivity and the incipient 5G technology are going to turn them into devices capable of increasing our capacities exponentially. Within this context, some proposals arise naturally in which the development of APPs facilitates the management and recovery from the pandemic from multiple fronts.

05:

Crowded Areas
Application based on the collective sharing of the geolocation in real time. This capability would allow the identification of the most congested areas in real time. This capability would reduce the risk of contagion. The App, as a person approaches a crowded field, will proactively alert you.

06:

Capture the Cough
The system consists of a mobile-based recording system of coughing episodes. Additionally, it will merge that information with various inputs associated with sensors such as the accelerometer. With this set of data and through specific models, the state of severity and potential infection of the virus could be identified at an individual level just using the mobile phone of each person.

07:

Smart Watch Tracking
Smartwatches have an increasing number of sensors being able to process and store a considerable number of vital signs. Thanks to massive software updates of these phones, risk and propensity zoning models could be created anonymously. The goal would be to detect potentially infected people through these patterns remotely and to gain time for treatment.

Data

The ability to capture data of all kinds and put it to good use through mechanisms that use it to get results is undoubtedly an asset with great potential. In the context of the current crisis, being able to centralize and unify databases with diverse information, working to standardize and homogenize these databases by making them available to the community, are necessary and very valuable actions to distribute knowledge and understanding in an orchestrated way.

08:

Collaborative Platform
The idea is to centralize a shared digital space in which both tests, trials, and results of all kinds of treatments aimed at treating the virus are available. We would be talking about a global repository at the service of specialists that not only collects the conclusions but also, in real time, the reflections, the advances, and the discoveries of all those open lines of research. It would be like an "Open Source" platform in which extensive knowledge is co-created incrementally and collaboratively.

09:

Sewage /Wastewater-Based Tracking
To systematically analyze viruses, bacteria, and chemical metabolites that are excreted in urine and stool and collected in sewers. This information is a readout of our health and wellbeing as a community. Mapping this data could provide valuable information to identify areas with more significant healthcare problems. This initiative could be consolidated outside the COVID-19 crisis as a systematic mechanism to control specific health parameters at the community, district, and regional levels. To capture a general vision of a society, it is an advantageous and efficient mechanism.

10:

Global Repository
To have a global and anonymized repository of clinical test results. X-rays, blood tests, vital signs, as well as general data that allow characterizing patients. This universal database could be made available to develop predictive and machine learning models that are much more effective and have global coverage.

Disinfection

Disinfection as a preventive treatment has become a line of action with multiple specific areas of work.

Incorporating innovative solutions that allow an effective way to disinfect public spaces, workplaces, surfaces, even the air, besides minimizing the risk of contagion, enables the establishment of protocols that accelerate the recovery of a more social model of conviction

11:

FAR-UVC
Within the UV rays, there is a particular typology called FAR-UVC (a subgroup of the UVC) emitting 222nm wavelengths that, in addition to significantly reducing the exposure time required to disinfect are not harmful to both humans and mammals in general. This condition opens the door to designing different use cases in which both the speed of disinfection and the compatibility of coexistence with this emission could ensure a rapid standardization of the use of public spaces. This technology is in an advanced testing phase; it would be convenient to accelerate and increase the validations and tests of its effectiveness in all types of scenarios.

12:

Disinfectant Gloves
A set of gloves that can automatically disinfect what they touch because they are covered with disinfectant gel. We are talking about gloves that, in addition to protecting, this double action, coupled with the conscious use of them, could have a positive effect increasing with more protection than the gloves themselves represent.

13:

Sterilize the Air
There are new nanotechnology-based on laser-induced graphene (LIG) water filters that eliminate viruses and bacteria in water. This new concept, engineered for air filtration, could be used in air filters in heating, ventilation, and air-conditioning (HVAC) systems or integrated into face masks for a self-sterilizing effect. LIG air filter has the potential to be combined with state-of-the-art air filtration such as HEPA filters.
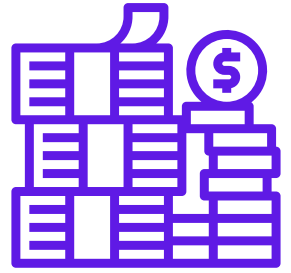
Economic

The economic effects of the pandemic are beginning to take shape, with profound and structural effects anticipated in many productive sectors. Among possible actions to execute, those of an economic nature plays a vital role as catalysts for a recovery. We had production and business models leveraged on efficiency and a high dependence on offshored production. The new paradigm we are facing must necessarily be more resilient while ensuring greater control of supplies and raw materials.

14:
Repurposing Activities
Retailers require additional staff to meet the demand generated by the COVID-19 crisis. At the same time, neighborhoods in the city, both inner and suburban, do not have enough stores that can procure and sell "Fresh produce" at "affordable" prices. The solution might be for Walmarts and Costcos to think of "supplying the restaurant owners" with their products, thereby converting them into temporary, small grocery stores.

15:
Venture Accelerators
Create a network of regional and financially sustainable cross-sector social venture accelerators (combining philanthropy and impact investing) to incubate startups for the pandemic response (e.g., other examples include Greentown Labs, LabCentral, MIT Solve) with specific emphasis, impact investing metrics related to socially-directed technologies and equity

16:
Low Tax for Resilience
Companies have a weaker-than-desirable incentive to maintain supplies of parts, inputs, and backups. This incentive can apply with tax policy that encourages the inventories in critical industries and gives FEMA the right to use direct stocks in a crisis.
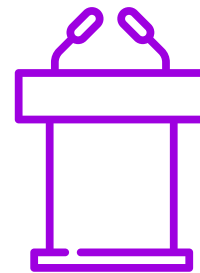
Political

Since this is a global problem, we are in a context where the direct participation of states is necessary to coordinate those measures of an international nature selectively. Political will and coordination are required to address actions that involve several states.

17:

Protection PPE Globally

During the pandemic, there have been several issues regarding properly and fairly distributing supplies. The supply of sanitary materials should be protected, and behaviours such as gouging prices or selling faulty materials that endanger the lives of first responders should be held accountable for their actions.

18:

e-Government

The role of central governments has become crucial in the management of the pandemic. Just as in the business sector, accelerating the digitization of processes would allow a more resilient confrontation to this and future global crises, all those governments with a higher capacity for digital management would benefit. Models such as that of Estonia are a reference from which to extract valuable takeaways. Those experiences after the proper extrapolation could be applied

19:

Global Pandemic War-Room

A global crisis highlights the importance of coordinating the actions of states in a supranational way to harmonize measures, progressively mitigate exposure to risk or sequence treatments, make supplies available more effectively, etc. Beyond the existing organizations, the creation of a tactical and strategic forum should be considered, in which the states could find spaces for coordination, supported by trust and general interest, globally.
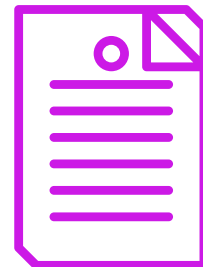
Standards

Establishing a set of core principles, practices, methods, and criteria will be crucial to ensure clarity in the communications, adoption of new technologies, and efficiency in the results. In times of uncertainty, these same standards will help guide our actions.

20:

Understand Asymptomatic

A large number of infected people have had no visible or only mild symptoms associated with their infection. Employ state-of-the-art technologies to look more carefully into mild symptoms such as a change in heart rate compared to the base, an occasional cough with different undefined characteristics, variation in energy, etc.

**21:**

Global Travel Standard

We need to get the world back to moving. This aim naturally implies traveling internationally. But today, each country is establishing its protocol for accepting someone entering a country, which in effect means that almost no one is allowed. The idea would be to define a standard protocol that is followed by airlines or other traveling means, and accepted by all countries. Initially applicable to people but may also apply to goods.

22:

Blockchain Laboral Contracts

The ability to implement smart-contracts could accelerate the economic recovery of those sectors that do not require so much of a physical presence. Employees can cross borders digitally and with the guarantee that there is a supranational support pension structure that orchestrates who, when and where duties and obligations are generated.
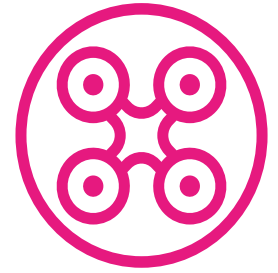
Supply chain

When it comes to food, PPE, and vaccines, the supply chain basics (workers, equipment, distribution) are ill-defined. Creating a resilient and predictable food, PPE equipment and vaccine supply chain becomes imperative, as we have come to realize that grocery services are not built for crisis, PPE supply chains are not built for spike demands, and vaccines lack scale in their delivery capacity.

23:

Licensing 3D Components
For all life support-critical equipment components, defining a licensing model that in the event of force majeure, or limited production capacity, this equipment could be mass-produced using 3D printing technologies without the need of patent infringement or reverse engineering.

24:

Resilient Supply Chain
Industrial production has optimized the supply chain into a small set of global providers. Final products or components are jeopardized when those few providers suffer an unexpected threat like pandemics. Incentivise the countries where those providers concentrate on protecting the last local supply chain, governments may tax industry to favor the rise of multi-locality providers versus monolithic single best worldwide providers. The lower the risk, the lower the tax. It should avoid autarchy as well (as relying only on the local market is another monolithic risk). Aggregated company risk must be calculated through a set of corporate transitive rules to drive the tax.

25:

IP Licensing for Innovation
An existing patent may cover specific components, methods, apparatuses, or compositions that are required to practice innovation. In such cases, private or public entities owning such patents should be contacted. While an outright donation of patent rights may be difficult to obtain, entities holding relevant patents can instead be approached to provide a limited license that would cover COVID-19-related uses. This would allow the patent owner to continue using its patent while potentially being eligible for incentives. As an alternative option, governments could also be approached to invoke licenses for relevant intellectual property.

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Social

The pandemic is affecting each of us differently as we are all adjusting and managing our unique situations. Taking care of our mental and emotional wellbeing is more important now than ever. This reality also includes students who have now seen the social structure they need gone.

26:

Mental Stress Detection
Proactive and digitally assisted mechanisms that allow us to identify triggers and patterns of mental health deterioration. The objective is to minimize the impact on mental and emotional wellbeing, and to develop tools and resources to help prioritize self-care in times of uncertainty.

27:

New Digital Educational System
While remote learning has been here for a while, we are now faced with the challenge of providing a new education experience that can take full advantage of teacher's skills, maximizes student engagement, and eases parents' workload to ensure students are on track and meeting expectations

28:

Run Social Experiments
Taking as a starting point that a global crisis is an event that should not be wasted at the social and economic level to conclude to generate knowledge, address changes that otherwise would not have occurred, etc. The fact that society is confined to its homes, without being able to travel, is a reality never before experienced in recent history. Understanding the dynamics that have been generated and the relationships strengthened at the community level between individuals can provide vast knowledge about how societies themselves become more robust and flexible to adapt to extreme and unconventional situations.

Towards
a Platform

Towards a Platform

This report you are reading is only the beginning of the resilience journey. Most global stakeholders are very much aware of the fact that with the coming, economically inevitable easing of restrictions we are likely to enter a much longer period of volatile distress and continued disruption after the initial lockdowns. Our Group, therefore, also set its mandate as building the support structures that enable our global community to overcome the biggest pain points in our resilience capacity, that the outbreak of the pandemic has revealed so painfully in the first few months.

Step One: This report sees daylight in a pandemic situation and aftermath that will stay very much fluid and will require a vast array of evolving responses, both fast and strategic. To stay continuously relevant, this report itself will soon become a **Fluid Digital Report** in the shape of a website, curated continuously, and updated periodically by the Group with the latest data, best practices, adoptions, and achievements. Leaders, experts, and citizens will always be able to access evolving, up-to-date report content in all transparency, and one-click download the latest pdf version.

Step Two: With the completion of the first phase of its work, our Group now moves into the work of building a broader **platform,** in both the **social/societal** and the **digital** senses of the term. By providing a clear vehicle for the long-term sustainability of our purpose, we can expand our contributions, invite others to boost the effort, and multiply our joint impact manifold. The ultimate aim is to parallelly design and initiate a social movement that puts the emphasis on capturing bottom-up elements of support to fuse them with top-down initiatives already in abundance.

Therefore, in the second phase, we will continue to pursue innovative ideas, that we together will flesh out to become actionable, scalable, implemented solutions. Furthermore, we will build and continuously expand our platform by leveraging aggregate networks and mobilizing the power of a growing community of supporters. In this expansion, we will prioritize from a multidisciplinary background, monitor best practices, and use resources and skills to steer specific solutions to their highest levels of maturity.

To get beyond our call to action and to action, we aim at engaging the best of the digital realm. For activation, we are designing a digital platform with the following two primary objectives:

1. Create Engagement

Fragmentation and lack of global coordination were painfully apparent from day one of the pandemic. While some pop-up corporations do admirable work, most current collaborations around COVID resilience innovation are ad-hoc and siloed in one way or another. Even in the best cases, they belong to proprietary/closed ecosystems. We believe there are millions worldwide who instead of being passive "victims" of the pandemic would like to be an active part of the solution. If this pent-up, bottom-up energy and creativity can meet the right set of expertise and resources provided by caring organizations, an extremely powerful vehicle can be born. Coordinated actionability is what most citizens and organizations have been seeking and this is where most of our work will go.

Using our tested model, we want to enable the widest possible array of industries and sectors to get involved, start cross-pollinating seamlessly, and adopt a broad set of practices: ranging from certain mindsets of approaching problems to concrete solutions from unlikely counterparts.

This all needs to orchestrate inclusive, global engagement at the cross-organizational, cross-community, and individual levels. The platform needs to be set up to capture, enable, track and expand engagement continuously around our evolving set of solutions, with the following functions:

- Showcasing our solution tracks with the focus on individual solution outlines looking for contributions to become fully mature and implementable.

- Continuing to generate innovative ideas and calls to action (see Annex of this report for a summary of initial tracks and solution outlines).

- Expanding the community and partnerships: Citizens, experts, and organizations can sign up to specific tracks and evolving solutions to contribute ideas, expertise, and resources.

- Integration with social media for one click-sharing of best practices, calls for contributions, innovation challenges.

- Integration with select idea crowdsourcing platform(s) to launch highly focused open community (or closed organization-only) innovation challenges that further refine the solution outlines.

- Integration with digital collaboration tools to launch and track the work of structured and pop-up expert groups, engaged on tracks and solutions in an integrated and transparent manner.

- Showcasing a clear curation path from the outputs of challenges and expert groups to be integrated with and included in the growing and maturing repository of solutions.

- Capturing, hosting and showcasing incoming offers. Signing up implementation teams providing resources, skills, piloting environment, including the seamless management of financial engagements.

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2. Be a Resource

Any and all COVID-19 resilience initiatives now suffer from the low institutional trust levels across most societies worldwide. We need to prioritize the importance and urgency of informing and engaging well-meaning citizens by means of providing trusted information and data sources via this platform, in an accessible way. Even without misinformation, the sheer volume of unvetted information we are being bombarded with leaves most individuals helpless. Also, data silos add to the problem of leaders not being able to refer to global comparisons easily: especially, it is very hard for leaders and citizens to make informed decisions quickly, reacting to sudden developments in one direction or the other.

When it comes to providing resources, the platform is to be designed with the following functions:

- Multi-source Data. The platform needs to seamlessly source and integrate the broadest possible relevant kind of COVID-19-critical data: medical/public health, socioeconomic, policy, public opinion/social intelligence, social impact, public compliance, security/disinformation efforts, etc.

- Multi-source Knowledge. In a closely connected manner to the above, a trusted expert- curated knowledge base needs to be set up, focusing on the multidisciplinary and cross-industry/cross-sector findings and applications, building up trust and insight in with interested and engaged citizens.

- AI curation and aggregation. While their impact on the efficiency of building resilience could be enormous, AI tools have been underused so far, due to a variety of factors. We believe that machine learning tools are already in abundance that could serve as the core of dealing with the vastness and complexity of data, coupled with human expert curation. AI and human curation should be used together for developing and making available scenarios and strategic foresight tools.

- Real-time decision support. AI tools are also essential in enabling heretofore unknown levels of data-based, real-time decision support, especially with calling the right shots when sudden eruptions or re-flares happen locally that can possibly be contained with "precision techniques". This should be combined with alert systems available to leaders, as well as a simplified version of alerts available to the public.

- Best practices. Leaders of organizations looking for COVID-19 resilience best practices from other countries have very limited and haphazard ways of doing so at the time being. The platform is going to aggregate, curate and showcase best practices, both technology/innovation-based and also multidisciplinary. Citizens also need an easy way to build public support and push these best practices in front of leaders.

- Expert Resources. The platform should serve as a one-stop-shop to provide signed up, vetted and curated experts to COVID-19 resilience challenges voiced by communities, organizations and policymakers.

- Financial/In-kind Resources. The platform should play a key role in the capturing, showcasing and facilitation of offerings, both financial and in-kind (e.g. volunteering key staff for projects, tools development) that participating organizations choose to contribute.

Together, these functions represent a roadmap by which our expanding community can bring unique impact to this ailing world.

Annex

Annex 1

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41

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BCG Henderson Institute · ie University Driving Innovation · Imperial College London · innoplexus · KEARNEY

Microsoft · Massachusetts Institute of Technology · MIT Technology Review · NE neuroelectrics · OPINNO We deliver impact through innovation

PROSEGUR · Humanizing Phenomics 120 psomagen · QUALITAS HEALTH · Ramon Vullings · salesforce

Saratoga Ophthalmology · Schlumberger · STATION Education at the Frontiers · Steptoe · stratalis

University of Oxford · University of California San Diego · WAYMO · White House Chronicle

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slido · slack · spinmedia

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