

ASPIRATIONS FOR THE NEXT 50 YEARS

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Bangladesh and the ongoing technological revolution



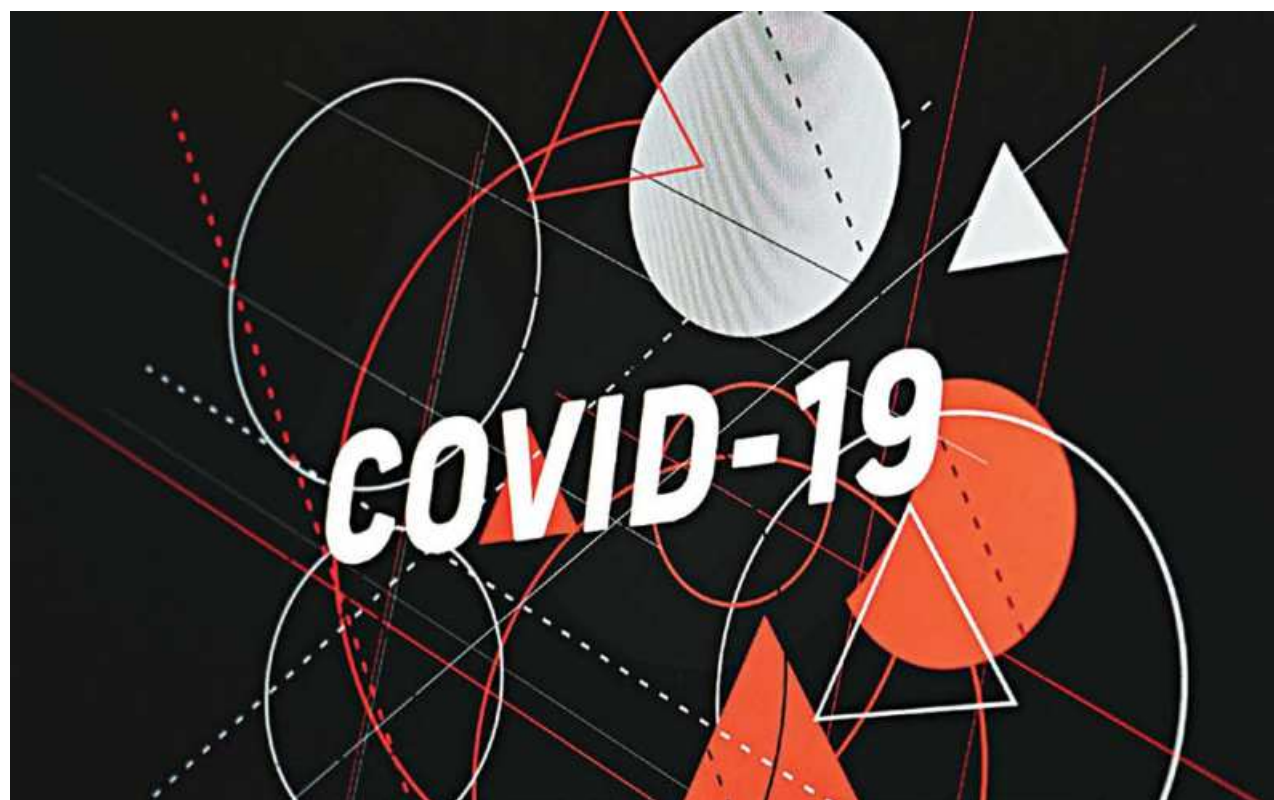
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In the last one year the coronavirus pandemic has infected more than a hundred million and killed more than two million people around the globe—the pandemic is not yet done. Despite the huge loss of lives and the constant danger of contracting the virus, people seem to have grown tired of being cooped up in quarantine or endlessly worrying about becoming the next victim.

The vaccines may help achieve herd immunity eventually, but getting there may take up to two years from now. In the meantime, the year-old routines of social distancing, face mask protection and hand sanitisation must continue.

But overcoming the coronavirus apathy is a huge obstacle to maintaining the status quo. On the other hand, if we fail to re-motivate the people to embrace the safety protocols for coronavirus containment then the wheel of the economy will sputter and there would be a lot of dislocation in society due to out-of-norm death of a bread-earner or long-term detrimental health effects to those who survive the virus.

Despite the outsize dangers of the microscopic enemy, getting the masses to adhere to health and safety protocols has been a public health conundrum around the world with massive social and political ramifications. Humans are social animals—living for us means interacting with family, friends and colleagues beyond the bodily functions of just eating and sleeping. The restrictions imposed by the coronavirus on our traveling, socialising, congregating, rallying and what not, have been perceived as an encroachment on our freedoms and way of life—from the shores of Australia



to the mountains of Zimbabwe. To rally people behind the call for silent conformance to a life of quarantine under the resurgence of repeated waves of coronavirus outbreaks around the globe will require nothing less than a cultural movement, a new philosophy of life, an altered etiquette of human mannerisms—promulgated not by government decrees but by social influencers and trend-setters. Achieving this has been further complicated by liberals and conservatives alike who are using the ubiquitous social media platforms to spread

misinformation and doubts on the scientific facts about the viral scourge of the century.

Just as social media technologies are being used against science, facts and social good, the same can be utilised to neutralise the harmful effects for a positive spin on the situation. The laissez faire approach to social media use has been replaced by platform-moderated content and platform-regulated access from tech-giants such as Facebook and Twitter. Many governments have resorted to artificial intelligence tools to monitor subversive activities on social media and take various disciplinary measures. Such corporate censorships leading to debarment of certain users and government snooping leading to cyber security enforcements have raised the eyebrows of civil liberties advocates and the debate is still raging. However, for countries such as Bangladesh the bigger question is whether we meekly submit to the corporate agenda of global behemoths facetiously

power than the computer that helped Apollo 11 land the first man on the moon a little more than half a century ago. However, we cannot be just mere passive users of these newly minted technologies such as 5G (fifth generation telecom technology), AI/ML (artificial intelligence and machine learning), AR/VR (augmented reality and virtual reality), blockchain, genomics, IOT (internet of things), nanotech, robotics, etc. but we must

into a veritable pool of knowledge workers. And that requires even higher emphasis on tertiary level education and research. While the education or learning part is on a sound footing the research and knowledge development part is highly deficient today. Our per capita number of publications in scientific journals is much lower than that in India and Sri Lanka. We need to set our eyes on overtaking our South Asian neighbours in R&D by 2031 and to do that we need to allocate higher and higher amounts for R&D in all universities—public and private—that can compete and qualify for these funds. The R&D initiatives must not happen in a vacuum rather the universities must find suitable partners in the industry as well as among overseas research organisations as a precondition for securing these funds. The academia, government and industry need to march in locked steps to take the country forward towards the goal of a knowledge economy in discernible phases by 2041.

Local adoption and adaptation of IR4 technologies is a frantic race against time as all nations jostle for a seat at the table. Human civilisation has progressed from nomadic to agrarian to industrial to the currently evolving informational stage and Bangladesh must seize this transformational opportunity to leapfrog ahead of traditional industrialised economies. In this transformation, collaboration will be key to our success—the silo



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lumped together as “FAANGS” (Facebook, Amazon, Apple, Netflix, Google, Samsung) or do we try to counter their octopus-like grip with appropriate regulations as has been done by the EU and Australia—or do we escape their ever-increasing centripetal force by fostering creation and propagation of domestic social media platforms as has been successfully done by China.

No matter what path we choose, our hands are inexorably tied to the new-fangled technologies innocuously called Industrial Revolution 4.0 or IR4 in short but it is way beyond just “industrial”, though the “revolution” part is quite apt. Even though our part of the world had always been late to the party in the earlier industrial eras galvanised by steam power, electric power and computers, we are in the throes of the industrial era of connectivity with smart phones in the hands of even a farmer that have thousands of times more computing

grab these beasts by their horns and learn about them inside-out so that we can internalise these technologies and the science on which they are founded to become equal contributors to their development in sync with the rest of the world. To do that we must re-examine our education policies and greatly augment research and development in our tertiary level as opposed to rote learning.

Bangladesh has experienced consistent socio-economic development over the last three decades and have of late become one of the top growth economies in the world. Our continued growth has helped meet the UN-set criteria for graduation from LDC to a developing economy. Our graduation to a lower middle-income country—LMIC—means that we must brace for higher levels of mechanisation, industrialisation and technology adoption in the coming days as we move towards an upper middle-income country—UMIC—by 2031 and a developed economy by 2041. In our development trajectory we need to have a clearly defined strategy to assimilate the IR4 technologies so that we can build our prosperity on the strength of our collective knowledge—the hallmark of a knowledge society—and not get bogged down by superficial knowledge and adoption.

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mentality in government, academia and industry must be discarded—and we must rise above sectoral turf dominance and rather the trio of government, industry and academia must learn to unroll the turfs to welcome collaboration by sharing information openly and fostering open competition for ideas and funds to solve local problems and leverage such solutions globally.

The plethora of IR4 technologies will strain the coffers and talents of all nations large and small. Despite our large population and youthful demographic, we cannot tackle all technologies with equal gusto. We have to choose a few winners to go all in and persevere until we excel in those on the world stage. AI/ML, blockchain, genomics and robotics, for example, could be targeted immediately as we have already shown some promise in these areas. As we gain a foothold in these emerging technologies and rub shoulders with the pioneers in these fields across the globe, we will carve out a niche with our unique signature. We want to be known in the world as the recognised leaders in AI/ML, blockchain, genomics and robotics for our own specialised innovations and applications that will be deemed as trailblazers in those niche areas.

As we embark on this journey towards a knowledge society and lead from the front rows of the informational civilisation, we will need to create a virtuous cycle of learning, innovation, research, collaboration, application and assessment. In the four mentioned fields—AI/ML, blockchain, genomics and robotics—we managed learning and innovation in the current iteration. Now we have to

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