Interview with Toshiaki Higashihara, President & CEO, Hitachi, Ltd.

Origins to be Cherished More than Ever in the New Normal

As a Global Leader in Social Innovation

Interviewer: Hiroko Kiba, Freelance Newscaster and Visiting Professor at Chiba University



Insights from the Pandemic

Kiba Reporting on energy infrastructure has formed part of my life's work, and in the course of this work up to now I have come to equate Hitachi with infrastructure and to see you as the archetypal Japanese company, as epitomized by how the Japanese characters that make up your company name can be read as "rising Japan." I was surprised to learn, then, just how much of a global corporation you have become, with employees outside Japan now making up the majority of your workforce. This has left me relishing the opportunity today to ask you about the secrets to making this transition, and to find out for myself what sort of person are you to have led this globalization.

I understand that 2020 marked the 110th anniversary of the founding of Hitachi, Ltd. It has also been a turbulent year in which individuals as well as companies have had to face up to unprecedented circumstances, not the least of which have been the restrictions on our activities imposed by the spread of COVID-19. What changes do you see COVID-19 as having wrought on society and on corporate activities?

Higashihara What I am conscious of first and foremost with regard to the impact of COVID-19 is that it has cast the strengths and weaknesses of people and companies into sharp relief. It seems to me that the fears and uncertainty inflamed by this invisible virus have served to expose the inner selves of both people and organizations, including their darker aspects.

Kiba It is as if these unprecedented times have left people flustered and defensive.

Higashihara On the other hand, there are also cases where people have been able to fall back on their everyday resources and the underlying strengths acquired from experience. What companies need to get through a crisis like this is to have a strong foundation to their business, especially cashflow. In that sense, Hitachi has been fortunate. Things would have been much tougher had the pandemic come three or four years earlier.

I was appointed CEO in 2016, a time when the reforms undertaken following the major losses suffered in the aftermath of the global financial crisis were still ongoing, 10 years on. We finally achieved an adjusted operating profit margin of 8% in our March 2019 results and, were it not for the pandemic, we were on track to reach our target of 10% or better operating profit margins in the five sectors of IT, Energy, Industry, Mobility, and Smart Life that we have identified as areas of growth. Although we are anticipating lower revenues due to the economic downturn, we currently

have a combined JPY1.3 trillion available in cash and credit lines from financial institutions and as such our business foundations remain unshaken. In this sense, COVID-19, along with exposing weaknesses, is also an opportunity to show the world the strength represented by the solid business foundations we have put in place as a result of our reforms.

Kiba I expect it is thanks to faith in your business that those credit lines are available. I also imagine public trust in Hitachi has been enhanced by how you have exhibited the strength to cope with this crisis.

Higashihara I believe so. While a disease like COVID-19 that has taken so many lives is certainly nothing to cheer about, one aspect we can take from it is the opportunity for both people and companies to identify their own strengths and weaknesses, and how in doing so, it prompts us to take action to better ourselves.

Uncertain Future Encourages a Return to Roots

Higashihara In a time of uncertainty about the future, when we feel unsure about what to use as a basis for our decisions and actions, one course is to return to our roots. In Hitachi's case, this foundation for how we think about the world can be found in none other than the Hitachi Mission of "contributing to society through the development of superior, original technology and products" originally set forth by our founding president, Namihei Odaira.

Kiba One could say that you built the foundations of Japanese manufacturing on that mission.

Higashihara When Hitachi got its start in 1910, Japanese manufacturing was still in the very early stages of modernization, with most production machinery coming from overseas. As an engineer in charge of maintaining electrical equipment at Hitachi Mine, Odaira's great aspiration was to make Japanese industry a force for social progress through the use of homegrown technology rather than relying on imported expertise. In other words, the roots of Hitachi lie in contributing to society and this serves as the basis for our corporate activities.

While Hitachi has encouraged remote practices during the pandemic, it is also important that each employee gives thought to how they personally can contribute to society so as not to lose sight of the purpose of their work, even when they are outside the office environment. As a spin-off of an ideas contest that has been held in the group since 2015, we launched a project in April of last year entitled "Make a Difference! Challenge to COVID-19," requesting

employees to submit ideas that aligned with the measures we were taking to counter the virus.

Kiba I took a look at the website and saw how you had received as many as 1,430 ideas from group employees around the world in just two weeks.

Higashihara That's right. A sizable proportion of those ideas were prompted by a desire to assist small and medium-sized businesses that were finding conditions difficult. One practical outcome was that seed funds from Hitachi enabled a million dollars in financing to be distributed to the operators of such businesses around the world that had been impacted by the pandemic, the funds being made available through Kiva Microfunds, a non-profit organization in the USA that uses crowdfunding to facilitate small loans.

Other ideas were put into practice through in-house initiatives, examples of which included non-touch operation of buttons for elevators and improvements to remote working environments. Staff were able to put their minds to the challenges facing society and come up with ideas on how to address them with backing from the company. That we were able to put this problem-solving model into practice was, I believe, one of the outcomes of the pandemic.

Challenges that Inspire Innovation

Kiba Given that climate change represents one of the major challenges for society, what action is happening on that front? In your keynote speech at Hitachi Social Innovation Forum 2020 TOKYO ONLINE, you spoke about how the

world's resources are limited and that social innovation refers to "innovations that contribute to a richer society within a limited environment."

Higashihara While humanity has been engaged in an ongoing pursuit of wealth in the form of high-volume production and consumption, I believe that climate change and COVID-19 both present an opportunity to take a step back and think about whether this is a path we should continue to follow. We have been reminded that the environment in which we live has limitations, that resources are finite. If everyone is to enjoy prosperity in such a world there are also areas where we need to exercise restraint. If the benefits of decarbonization can be won at the cost of accepting small inconveniences, then in the long view this is what will bring prosperity and wellbeing to society as a whole.

Whereas in the past companies contributed to the progress of society by supplying quality products in large volumes, the wellspring of value has in recent years been shifting from products to services and toward collaborative creation with customers. As the challenges facing society have mounted up, such as climate change and the demographic shift toward more elderly and fewer children, companies are being called on to factor these into their thinking and to find ways to help overcome them. Social innovation is innovation that is inspired by these challenges and Hitachi aims to engage in collaborative creation with partners around the world to help address the challenge that climate change poses to societies everywhere.

In parallel with this, we are also working on our own decarbonization with a target of becoming carbon neutral in all Hitachi Group business operations by 2030.



Toshiaki Higashihara

President & CEO, Hitachi, Ltd.

Joined Hitachi, Ltd. in 1977 after graduating with a degree in electrical engineering from the Faculty of Engineering at Tokushima University. He obtained a Master of Science in Computer Science at Boston University in 1990. His past roles have included General Manager of the Public Utility and Energy Industry Information Systems Division, COO of the Information & Telecommunication Systems Group, President of Hitachi Power Europe GmbH, President and Representative Director of Hitachi Plant Technologies Ltd., Vice President and Executive Officer of Hitachi, Ltd., Senior Vice President and Executive Officer of Hitachi, and President & COO and Director of Hitachi. He took up his current position in 2016.

Shift to Work-from-home Accelerated by Pandemic

Kiba You mentioned making greater use of remote work as a countermeasure to COVID-19 and I understand that Hitachi has been reforming its working practices since well before the pandemic. What sort of working practices are appropriate in the new normal and what aspects of this do you see as being the most important?

Higashihara For some time, we have been setting up satellite offices near suburban railway stations with objectives that have included offering more flexible working arrangements and alleviating commuting congestion. Although we had made limited progress on working from home, the percentage of employees working from home rose to more than 70% following Japan's declaration of a state of emergency. With approximately half of employees in a questionnaire expressing a desire to continue working this way in the future, it seems likely that this time of pandemic will serve to normalize practices that involve remote working.

What is important in this is that all employees set their own goals. As well as pursuing social innovations inspired by the challenges we face, Hitachi is also seeking to become a global leader in this field. As being a leader puts you at the forefront where there are no models for comparison, we need to be setting our own targets and goals. We have to work out for ourselves what needs to be done to become a global leader in our chosen fields. This also involves thinking about the relationship between ourselves and society.

While management promulgates a grand vision from the top down, employees think about how they can contribute to society through their work from the bottom up. Achieving a balance between these two approaches will likely be of particular importance in the future.

Flexible Job-based Working Practices

Kiba Along with working practices, Hitachi was also an early mover in the reform of human resource management. I understand that these initiatives have included making a switch to a job-based approach and establishing the infrastructure for global human capital management needed to support these practices.

Higashihara With remote work in particular, performance assessment is difficult unless there is clarity as to the outputs of someone's work. In the case of teamwork, success is hard to achieve without clarity over everyone's role. As employees outside Japan make up more than 50% of Hitachi's workforce, we also need to globalize our human capital management. Job-based employment arrangements that appoint employees to specific jobs as required are common overseas, as is labor mobility. While I believe we can also achieve flexible working practices in Japan through this approach, it will likely take some time, involving as it does our moving away from the longtime practice of recruitment based on an annual intake of new graduates. As a first step, we are seeking to boost mobility among the 150,000 Hitachi Group employees in Japan. For example, if a person's need to care for a family member restricts where they can live, and as a result they are unable to go on working at their current department, this might involve looking

Hiroko Kiba

Freelance Newscaster and Visiting Professor at Chiba University.

After graduating from the Faculty of Education at Chiba University, she joined Tokyo Broadcasting System Television, Inc. (TBS) as an announcer in 1987 where she was responsible for numerous sports programs as the station's first female sportscaster. She became a freelance reporter in 1992. She was a member of the Council for Regulatory Reform and a Cool Earth Ambassador for the 2008 G8 Hokkaido Toyako Summit in 2007 and a member of the Meeting on Education Rebuilding in 2009. She currently sits on committees for seven government ministries and agencies. She has been a visiting professor at Chiba University since 2013, an outside Audit and Supervisory Board Member of INPEX Corporation, and the Executive Director of the Ports & Harbours Association of Japan. She is a preventive healthcare instructor.



at whether they can do a similar job at a different group company located in their vicinity.

Kiba Being such a serious problem for the person concerned, I imagine measures like this would be very welcome.

Wellbeing as a Basis of Work Satisfaction Reform

Higashihara Rather than work style reform, this is more a matter of "work satisfaction reform." In essence, it is about all employees feeling satisfaction with their work and life. The more the workplace environment prioritizes the wellbeing of employees and their families, I believe, the greater the social value of work and the greater the sense of connection with society. What is also important is for employees to be aware of how their work benefits society and enhances happiness. That is why I encourage them to take time out each day, even if only for a minute or so, to think about what good they have done for society.

Kiba On the subject of happy working practices, Dr. Kazuo Yano, Fellow of Hitachi, Ltd., made quite a stir last year with the launch of a business that uses the Happiness Planet smartphone app to quantitatively measure human happiness in workplace management.

Higashihara Dr. Yano identified the features that characterize happy workplaces or groups in the course of his research into ways of measuring happiness. In simple terms, they are organizations where relationships between members are flat, and where there is plenty of interaction and a high level of synchronization in body movements between those involved. "Connected" organizations, in other words, have high levels of empathy. Dr. Yano has also pointed out that it is likewise important to consider these features in remote work. Giving everyone the opportunity to speak at videoconference meetings, an awareness of body language during conversations, and speaking to one another frequently even when working remotely. I have coined the term "virtual closeness" to express this, and I believe that by strengthening the connections between people, even when physically separated, organizations will be able to work happily and act proactively.

Kiba Both in our current discussion and elsewhere, you place a high importance on "connection."

Higashihara I do. Connection is the key to social innovation among other things. Whereas conventional innovation takes the form of specific technological advances, social innovations are those that generate value through connections between products, between systems, between different types of data, between people, and between companies.

Lumada, too, which we launched in 2016, serves as a platform for accelerating digital innovation through collaborative creation and other connections with customers.

Social Innovation Means "Scale by Digital"

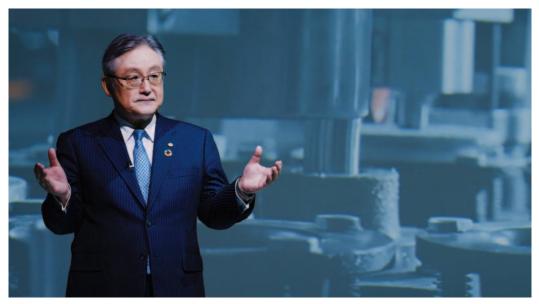
Kiba In relation to Lumada, given the rising expectations right now for digital technology as a means of reform and digital transformation (DX), what is your thinking with regard to future development?

Higashihara The term DX is interpreted in a variety of ways. Rather than referring to the upscaling of digital technology itself, at Hitachi we see it as being about using digital technology as a means of upscaling. The former represents a natural progression of past efforts for computerization whereby operational improvement is achieved by businesses making direct use of advanced digital technologies to achieve growth. In contrast, Hitachi is seeking to generate new value through the use of digital technology to bring innovation to fields like social and industrial infrastructure where we have specific expertise. We call this "scaling by digital." One example is the Copenhagen Metro in Denmark, where we are engaged in a demonstration project that uses artificial intelligence (AI) for people flow analysis together with sensor data to predict future passenger numbers and optimize timetables accordingly. For example, trains might arrive at intervals of just a few minutes when a major event brings a surge in passenger numbers, but only once every 10 minutes or so when usage is low. The wide fluctuation in the metro line's passenger numbers depending on the day and the time of the day means that carbon dioxide (CO₂) emissions can be reduced by optimizing services to match.

The downside is that people using the service at off-peak times have to wait a little longer. On the other hand, people will likely be ready to accept this small inconvenience if they know that by doing so they are helping reduce the load on the environment. As well as being a social innovation arising out of environmental value, this can also be seen as an example of "scale by digital." Likewise, we are making use of Lumada in many other applications to deliver social innovations that present a new image of society while also overcoming the challenges that society faces.

Kiba While the use of data is key to DX, what are your views on the issues this raises?

Higashihara Achieving the free flow and sharing of big data that are essential to DX means addressing the trustworthiness and utility of the data itself as well as of the platforms



President Higashihara giving the keynote presentation at Hitachi Social Innovation Forum 2020 TOKYO, where the event was held online for the first time ever (November 2020).

that support this sharing. As more and more public and other forms of open data become available, a high standard of ethics will be needed in its management along with the establishment of frameworks for maintaining international trust. As this is not something that a single company can achieve on its own, we at Hitachi want to participate in advancing this cause while also playing a leadership role at institutions such as the Centre for the Fourth Industrial Revolution (C4IR) that has been established by the World Economic Forum (WEF) at a number of sites around the world.

Addressing Societal Challenges through Collaborative Creation that Transcends Organizational Boundaries

Kiba With regard to "connection" and "trust," I am aware that Hitachi is engaged in open collaboration with academic institutions as well as with a diverse range of companies across a variety of fields both in Japan and elsewhere. Higashihara When thinking about future prosperity and wellbeing to help identify the societal challenges that serve as inspiration for social innovation and seek hints as to how to overcome them, it is vital to engage not only with technology and the natural sciences, but also with the deep knowledge found in the humanities and social sciences. To this end, we are collaborating with universities and other research institutions, with our Research & Development Group in particular playing a central role. This has included the establishment of laboratories for collaborative creation

between industry and academia at the University of Tokyo, Kyoto University, and Hokkaido University. We are leveraging the strengths of each of these universities in joint research and development work aimed at developing visions and generating innovation. This includes working with the University of Tokyo on developing a vision for smart cities based around the concept of Society 5.0 being promoted by the Japanese government; working with Kyoto University on the use of AI for future analysis and on devising system models that are inspired by living organisms; and working with Hokkaido University on solutions to the challenges facing society that incorporate mathematical models.

At the Hitachi Kobe Laboratory established in the Kobe Biomedical Innovation Cluster, we are engaged in open innovation in the field of regenerative medicine, developing equipment for the automated culturing of induced pluripotent stem (iPS) cells. We are also participating with the Kobe Eye Center in a low-vision care project that is providing a wide variety of support to people with impaired vision. Kiba What about collaborations with other companies? Higashihara We have a large number of collaborative creation projects in progress. Along with global projects such as the one with Copenhagen Metro in Denmark that I talked about earlier, we are also participating in collaborative creation in Japan with customers in a wide range of industries, including manufacturing and finance. With a North American partner whose main operations are in the car sales, truck leasing, and logistics sectors, we have used Hitachi's Lumada to put practices in place that improve vehicle performance. This involves using sensors to monitor the many trucks that the company leases in the USA and to identify signs of predictive faults so that



parts can be replaced at the best possible time. Thanks to our long experience in the automotive parts business, we have the knowledge to identify signs of a predictive part failure with high accuracy based on sensor data. The solution takes advantage of this workplace expertise as well as our technical capabilities.

Black Ship as a Means of Genuine Globalization

Kiba With regard to your overseas operations, you have been pursuing an active policy of expansion and acquisition, including the acquisitions of JR Automation in the USA and the power grid business of ABB. Given the uncertainty of the global situation and the likelihood that confusion will only increase, what is it that Hitachi is seeking to become? Higashihara Our aim is to transform ourselves into a global corporation in the true sense of the term. The globalization of Hitachi got underway in earnest with the expansion of our railway business into the UK. We earned a strong reputation for rolling stock that we developed to suit local conditions but that also drew on the technologies we had built up through our Japanese operations, with the result that we continue to enjoy a more than 50% share of the UK market for intercity express trains. Building

on this success, we went on to significantly expand our overseas operations by acquiring the Italian rolling stock manufacturer Ansaldo Breda as well as Ansaldo STS, a major supplier of railway signaling systems. This constituted an "inside out" approach to global expansion involving the deployment of capabilities developed in Japan.

ABB, in contrast, can be seen as a case of "outside in" globalization whereby we strengthened Hitachi by bringing in a power grid business that already had a leading share of the global market, operating in more than 90 countries and serving more than 15,000 corporate customers. I compare this to the historical event when Perry's "Black Ships" arrived in Japan in 1853. It sowed a great deal of confusion among the Japanese people of the time who knew little of the outside world. This acquisition, on the other hand, was a black ship that I deliberately invited in based on a knowledge of global business and in the hope that it will become a driving force behind the transformation of Hitachi's business and corporate culture into something that makes sense in global terms.

Kiba Still, differences in corporate culture and practices can pose an obstacle when it comes to corporate acquisitions, especially of overseas companies. The challenge of how to merge two organizations into one once they have been brought into contact may well prove critical.

Higashihara Yes. That is why we have introduced programs aimed at deepening mutual understanding. The predecessor of ABB was the company Elektriska Aktiebolaget Magnet founded in Sweden in 1900 to supply electrical machinery to mines, power stations, and other industries. Although this was 10 years earlier than Hitachi, it feels like a great coincidence that they too had their roots in mine equipment. Kiba That is quite a surprise. So, do you think their DNA will be similar?

Higashihara Yes. We also share an underlying business philosophy of contributing to society and an ethos of valuing employees. One of the factors behind my decision to proceed with the acquisition was the sense of chemistry and of mutual affinity that I felt when meeting with their senior management.

Hitachi Capabilities Arising from Onsite Expertise

Higashihara One key aspect of the business is the combined use of Hitachi and ABB resources to supply DX services that meet the needs of regions around the world, for example by integrating our Lumada predictive diagnosis services with the world-class product range built up by

ABB, which includes transformers and high-voltage direct current transmission systems. When tied in with the provision of services in other fields such as railways or trucking, the outcome is accelerated social innovation. Rather than seeing our transformation into a global corporation as an end in itself, the real objective is to put data and digital technology to use in delivering new value by solving the societal challenges that exist in different parts of the world. Kiba In other words, a global rollout of the "scaling by digital" concept you spoke of earlier?

Higashihara That's right. What matters here is domain knowledge, a core of specialist expertise and experience like that which ABB has built up in the power grid sector. Hitachi has likewise acquired domain knowledge and operational technology (OT) in various fields of industry and infrastructure. The innovations made possible by combining this knowledge with digital technology are what "scale by digital" is all about. It is something that specialist IT companies find difficult but that Hitachi, with all of its onsite expertise, is well placed to deliver.

Kiba There are few such companies anywhere in the world that have this mix of OT, IT, and products.

Higashihara Yes, Lumada serves as a platform for taking advantage of the strengths that Hitachi enjoys as a result of possessing these three elements. In the common parlance, the use of cyber-physical systems (CPSs) to resolve issues is another way of expressing the idea of "scale by digital." CPSs represent a high-level fusion of the virtual and physical realms. In the Copenhagen Metro example, predictions made using AI image analysis and sensor data of how many people are present on a railway platform are delivered as data for analysis via cyberspace and used to control the frequency of services. Along with the products that generate the data and the IT that performs the analysis, the implementation of such a system also requires the OT knowledge for product control. This is what the Japanese government's Society 5.0 concept is seeking to achieve: for CPSs like this to spread through all corners of society, overcoming societal challenges by generating value and providing services that did not previously exist. My hope is that, through Lumada, we can play our part in realizing this vision.

Becoming Global "Nobushi"

Kiba You spoke at the beginning about the Hitachi Mission being something that remained unchanged despite the impact of the pandemic. What other things do you believe you need to hold onto as Hitachi makes the transition to being a global corporation?

Higashihara First and foremost is our commitment to technology. While we are careful not to become too obsessed with self-sufficiency, because Hitachi is a company that contributes to society though technology, it is by honing the technical capabilities of our products that we can offer something that is world-leading or unavailable elsewhere. We also need to retain the essential character of Hitachi. This is a stance of doing the hard work and putting in the effort to determine for ourselves the true nature of the issues we are addressing and to find solutions to all of these challenges in our own way, what used to be called the "nobushi" character of Hitachi engineers. ("Nobushi" means "field warrior" and refers to wandering or lord-less samurai.)

Thinking through issues for ourselves is another manifestation of a return to our roots. Hitachi started out as a venture company with a small staff established by our founding president Namihei Odaira. While I don't doubt there were clashes of opinion over their first ever product, a locally made 5-hp electric motor, once their development plans were in place they came together in a spirit of harmony to carry them out. When problems arose with a product, they dealt honestly with customers in a spirit of sincerity. They also adopted a pioneering spirit of never giving in to failure. Like the Hitachi Mission, this Hitachi Founding Spirit of "harmony, sincerity, and pioneering





spirit" is something else that we need to maintain. This is why I call on our employees to become "global *nobushi*" who are prepared to face up to the global challenges posed by issues such as the environment and aging demographics.

In doing so, one other thing that we should never lose sight of is an empathetic mindset. This derives from a saying by Kumeo Baba, one of the founders of Hitachi, that when rendered into English urges workers to rid themselves of self-interest and to adopt an attitude to work that rejects falsehood and is faithful to one's self. In other words, renounce selfishness and go about work with a sincere heart and consideration for others. The lesson is that you will gain insight by doing so, and now more than ever, I believe these words are worth dwelling on amid the current stressful environment brought about by COVID-19.

Kiba While it is important for companies to turn a profit, this is about the value that comes from bringing happiness to others, from the good cheer and gratitude of your customers and your customers' customers.

Reforming Society with an Empathetic Mindset

Higashihara Including through the work of Dr. Yano, the question of what constitutes human happiness is one that we need to keep pursuing. How to enhance the benefits of happiness will be a vital issue for the future.

As AI starts to find applications in diverse areas of society, there are also voices questioning whether AI will really contribute to human wellbeing. Despite this, we are unlikely

to go wrong if we take an altruistic approach to how we use this technology. On this basis, I believe we need to establish a new system of ethics that is suited to the age of DX. Dr. Hideaki Koizumi, an Emeritus Fellow of Hitachi who has developed a technique that uses light to measure brain function and is researching the use of neuroscience in education, talks about how the basis of ethics lies in warm-heartedness. Something that Dr. Koizumi has said to us on numerous occasions is that, although people are able to live their lives in a selfish manner, the people who ultimately experience a feeling of wellbeing are those who bring happiness to others by contributing to society with an empathetic mindset. As a company that is leading the era of DX, my hope is that Hitachi will be able to contribute to the establishment of such a new system of ethics rooted in warm-heartedness and empathy.

Kiba While you have spoken today about many of Hitachi's innovative technologies, it is reassuring to find that underlying all of these are empathy and warm-heartedness. *Lita*, the Japanese term for empathy, is a wonderful word that sounds like it is somebody's name. When I looked it up, I found that it is in fact a woman's name in Europe and America, one that is said to carry the meaning of "light." It may be that an empathetic mindset can be likened to a light shining on society.

Higashihara That is a wonderful image. I would like to borrow it sometime. At Hitachi, we intend to take the lead in social innovation with an empathetic mindset and of contributing to society, something that is more important than ever in this new normal where past assumptions no longer apply.