

## 2021 MTBP: CSO Message (Accelerate Growth)



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### Unconstrained ideas and technological innovation are key to MHI Group's future

The future growth of MHI Group will come from two areas, with one being 'energy transition'<sup>3</sup> and the other 'new mobility & logistics'. Under the 2021 MTBP, we intend to create new businesses collectively generating ¥1 trillion of annual revenue by fiscal 2030 by intensively allocating management resources to these two growth drivers and combining new technologies with the know-how we have amassed so far. Our Growth Strategy Office, which we established in April of 2020, has been tasked with overseeing investment and business expansion within these two areas in coordination with other relevant business units.

In the energy transition space, we will pursue realization of a carbon-neutral society by 2050. We already manufacture the world's most efficient gas turbines and equipment used for capturing, utilizing and storing carbon dioxide (CCUS). By retrofitting existing power plants with these technologies, we are helping to reduce CO<sub>2</sub> emissions. Our next task is to encourage the production, transportation, storage, and subsequent use of green

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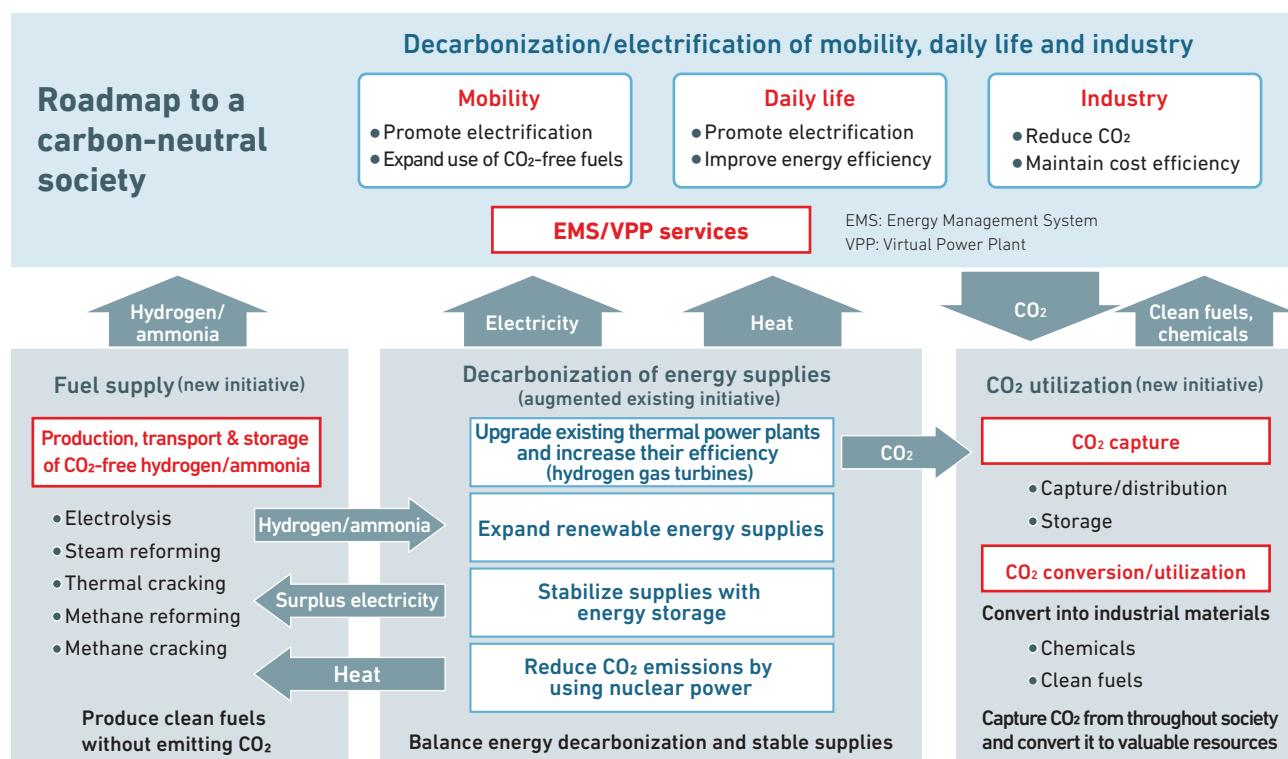
fuels, particularly hydrogen (and its derivatives, such as ammonia), to build a value chain which fosters stable demand.

\*3 For details on energy transition, see Special Feature: New Challenges Toward a Carbon-Neutral Society on page 36.

In the new mobility and logistics space, we will develop new markets through cross-organizational initiatives led by the Growth Strategy Office and deliver new value by digitalizing a broad range of products and technologies and embedding AI into them. To meet customers' increasingly diverse and sophisticated needs, we are transforming into a solutions provider that solves customers' problems through integrated control of various machinery systems. We will accelerate this transformation. We will first apply this solutions model to the logistics business as a model case. Specifically, we will address customers' challenges and meet their latent

needs by proposing automated logistics and cold-chain solutions, for example. Building cold chains is becoming increasingly important to meet transport needs that require stringent temperature control. Cold chains' importance has been amplified by the pandemic in addition to recent lifestyle changes. Using smart software, we will knit together existing MHI Group products into systems, with said products including automated warehouse systems, forklifts and refrigeration units for buildings and trucks. We will then apply cold chain logistics engineering to those systems to facilitate the continuous maintenance of optimal environments during the transport and storage phases. The result is cold chains that are more advanced than anything seen before. Another thing we are working on is upgrading our transportation infrastructure solutions, as exemplified by sophisticated Electronic Road Pricing systems like ERP2, which MHI

### ► Energy Transition

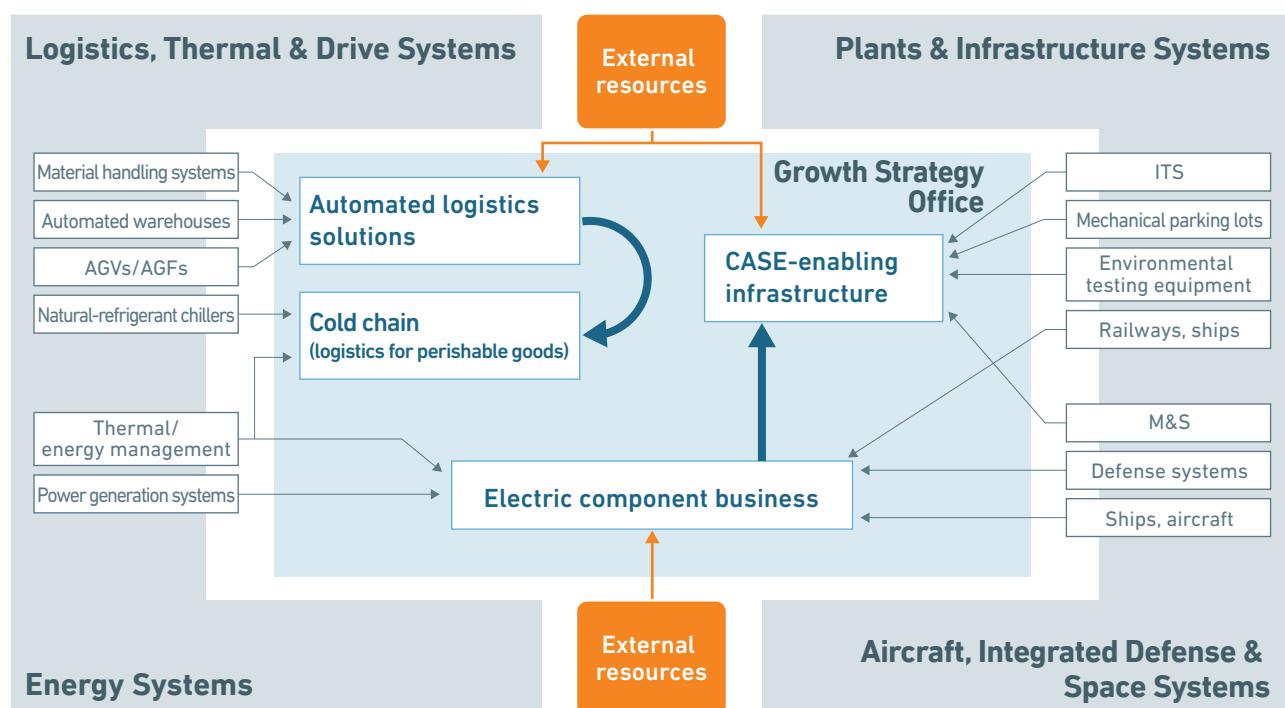


has built for Singapore. Urban traffic congestion and associated environmental ills have become a societal problem in rapidly growing Asian metropolises. ERP2 collects driving data in real-time from every vehicle within range of its sensors. It can also analyze traffic bottlenecks and accidents. Using the data collected by ERP2, Singapore seeks to optimize traffic flows on an area-by-area basis by granularly adjusting the locations where tolls are charged and toll charges per kilometer driven. These adjustments help to alleviate traffic congestion.

In order to design such comprehensive solutions for our customers, we will have to increase our technological expertise, from digitalization to artificial intelligence. That will require greater internal cooperation across traditionally autonomous business units, as well as more external partnerships.

Once the group has rebuilt its profitability, my role as CSO is to expedite our commercial success and ensure that we provide solutions to the problems faced around the globe. With many of our product lines reaching maturity, our group's future will depend on the ideas and technologies that we can come up with. Keeping that in mind, we will be working on transforming our corporate culture to become more open, less bureaucratic and more risk-taking, willing to try and fail.

## ► New Mobility & Logistics



AGV: Automated Guided Vehicle

AGF: Automated Guided Forklift

CASE: Connected, Autonomous, Shared and Electric

ITS: Intelligent Transport Systems

M&S: Modeling and Simulation