

Message from the CDXO

# Promote Advancement of Digital Infrastructure Involving a Sense of Urgency and Aim for Sustainable High Growth Through a Large-Scale Shift in Management Resources



Managing Executive Officer  
General Manager of  
Intelligent Information  
Management Headquarters

**Yoshinori Komiya**

## The IHI Group's Three DX Principles Formulated to Spread DX On-Site According to the Characteristics of Each Area

IHI's idea of DX (digital transformation) is the utilization of digital technology to reform work processes for greater efficiency, reducing lead times, etc. as well as to aim for reform of the business model to resolve social issues. It can be defined as DX in the broad sense. Meanwhile, IHI handles various machinery products, which can be classified into three types of mass production items (aviation parts, vehicular turbochargers, etc.), semi-mass production items (industrial machines, etc.), and indents (bridges, plants, etc.). Therefore, we must move DX along with an understanding of the characteristics and issues of the work processes for each.

First, to eliminate at the on-site level, the three obstacles that reject the IHI Group's DX (tendency toward analog based on intuition and experience, the concept of selling goods, and a silo-type organizational structure with high independency of business unit x work process), the Three DX Principles were formulated and reform of the corporate culture began. To do so, each business area and corporate cooperated in appointing approximately 180 mid-level individuals around the age of 40 who have reformative minds even if they do not have digital knowledge as DX Leaders, to aim for business transformation utilizing digital technology at an on-site level.

### The Three DX Principles

1. Be aware of social issues and value for customers.
2. Be connected with SOTO (outside) / YOKO (horizontally) / TATE (vertically) and have a conversation.
3. Thoroughly implement data-driven decision-making and carry through reforms.

## Certain Level of Results Gained Through "Project Change," Mainly LCB Expansion and Work Process Reform

"Project Change" was started as a preparation and transition phase for business transformation in response to

## Message from the CDXO

operating environment changes, and work process reform using digital technology began.

First, to expand LCB (lifecycle businesses), several initiatives were taken to shift to the selling of "experiences," such as in proposing solutions to customers. A customer success dashboard has been developed for various logistics and industrial machinery systems, which visualizes operational status and maintenance information of items delivered to customers as well as their feedback, as part of sales reform beyond the SBUs. With the objective of supporting maintenance and management of aging bridges, an application for entering inspection and maintenance information on such bridges (BMSS: Bridge Management Support System) has also been developed as a health record of sorts for bridges, so that necessary repair work can be efficiently carried out. Using digital technology for work process reform, efficiency is improving with elimination of bottlenecks at maintenance bases for the aero engines business, lead times are being shortened for each business in logistics and industrial machinery systems through separation of fixed and variable elements, and downturn prevention and overall optimization are being promoted with direct connections among design, production, and construction processes for the bridges business.

Further, to contribute toward carbon solutions, initiatives are underway to monitor CO<sub>2</sub> emissions of each machinery delivered and build a foundation to produce credit and distribute it.

### Accelerate Advancement of Digital Infrastructure Involving a Sense of Urgency with "Group Management Policies 2023"

"Advancement of digital infrastructure" was set as a priority measure essential for business transformation in the new medium-term management plan. Meanwhile, manufacturing companies in Europe and the United States are accelerating realization of Industrial 4.0 and DX such as with automation connecting all processes with data. The IHI Group will aim to realize the new medium-term management plan and vision through establishment of new

business models by implementing and accelerating DX strategy involving a sense of urgency.

Specifically, DX will be promoted among each of the three businesses: Growth business (aero engines and space field), Development-focus business (clean energy field), and Core businesses (exploit and evolution of existing LCB). For the Growth business, we will aim to realize world-class productivity under a new transformation center to undergo DX and factory reform in an integrated fashion to promote reforms in production efficiency and operational structure. In the Development-focus business, we are looking into ways to enhance value of the ammonia value chain overall by using blockchains to authenticate green ammonia produced with green hydrogen. With the Core businesses, for example, we are considering addressing needs for CO<sub>2</sub> reduction as well as for reducing labor and increasing efficiency using data mainly from operational and maintenance support systems for plants, factories, and industrial parks that also cover products of other companies. We are also aiming to establish a system that can efficiently build and maintain bridges, etc. by utilizing

data for local governments. In these ways, we will vigorously promote exploit and evolution of LCB through the use of digital technology.

### Vigorously Promote DX Through Collaboration In and Outside the Company to Develop DX and Digital Human Resources

The objective of IHI Academy is to develop future senior management candidates and specialized technical personnel. Of these, senior management candidates will learn management and digital technology as DX human resources and also acquire the capability to integrate both for commercialization. From among specialized technical personnel, human resources for data analysis, ICT systems, and information security will be developed internally as digital human resources and also be hired externally as necessary. We will also work toward achieving both DX and information security by establishing a zero trust network enabling collaboration safely with customers and business partners while protecting material information.



Scene from a company-wide contest held across the entire IHI Group to train human resources in data analysis