7. IT Systems

7-1 : Changes in IT Systems Domain

Honda Motor Co., Ltd.'s IT Department

Honda's IT system department began with the establishment of the Work Rationalization Office in the Administration Division at the Yaesu Head Office in 1964, to streamline office work. Since then, Honda has continued to implement IT in the three business areas of sales, manufacturing and administration, aiming to improve operational efficiency by reducing workload and time. The IT department started with individual departmental initiatives and gradually expanded its scope to include cross-departmental initiatives to consolidate and integrate information.

IT for Sales Support

・Established sales management and product logistics management systems to reduce lead-time from accepting product orders to delivery, and optimize product inventory.

・Established repair parts management system that mainly consists of forecasting, inventory, and warehouse management to enable a timely and stable supply of spare parts.

・Established system to support and streamline maintenance support information management, etc., which provide a high level of service to customers.

IT for Manufacturing

・Established production line management system that collects work progress information, issues work instructions, controls equipment, and gives shipping instructions, aiming to stabilize and increase the efficiency of manufacturing.

・Established drawing information management system that distributes drawings to factories, suppliers, and overseas subsidiaries as needed to shorten the time from finalization of development drawings to production.

・Managed master data common to, required for, all production management systems, such as a parts list representing the components for single vehicles and model database managing product codes.

・Planned optimum production considering efficiency, capacity, inventory status, etc.

・Managed ordering and delivery by calculating number of parts required for production, ordering the parts, and managing parts delivery at the manufacturing stage.

・Established IT system that supports and streamlines IT systems creation to support quality improvement by collecting quality information on products in the market and providing upstream feedback.

IT for Management

・For accounting and finance, IT system provides data necessary for management decision-making, rapidly processes transactions and efficiently issues vouchers.

・For human resources, IT system supports and realize the management and utilization of information related to associates, which requires efficiency and accuracy.

In recent years, with the development of the Internet and the sophistication of IT, the risk of corporate information leaks has increased, and since 2017 Honda has been working to minimize the risk by establishing a specialized system to promote its cybersecurity. Since its establishment, the IT department has been contributing to streamlining work efficiency, but now is expected to solve business issues and realize business reforms through the use of information and data. To this end, in 2012 Honda established the IT Operations as a headquarter to strengthen the organization, and in 2017 established a department to promote IT innovation to maximize business value through company-wide information utilization.

Honda R&D's IT Department

The history of Honda R&D's IT Systems Division began in the early 1970s as a group within the 8th Research Block (an organization related to electrical components), which used computers to perform physical calculations performed by designers. The Technical Computation Block was established to "provide in a timely manner software that allows R&D staff to maximize their infinite creativity." Its main tasks were:

・Prompt response to user (designers, etc.) needs and proactive operation

・Timely and accurate application of advanced technology and hardware

・All-Honda's "core" role in the area of computing technology

In 1995, the technical calculation, information systems and drawing management organizations were combined to form the CIS (Computer Integrated Systems) block for further streamlining. In 2019, its name was changed to the Digital Solution Center aiming to realize the creation of new value with a view to effectiveness and Honda as a whole through synergy between motorcycle, automobile and power products IT. Furthermore, in 2020, the Honda R&D's Digital Solution Center was integrated with Honda's connected IT and big data analysis, and renamed as the Digital Reform Management Department.

The purpose of promoting IT in R&D

・Flexibly promote further reinforcement of the information system and network infrastructure to support the transformation to a flexible structure of R&D center.

・To realize an integrated digital process from design to manufacturing and sales by creating a 3D digital data of a single model.

・Conducting various verifications and analyses in a digital environment during the initial design phase(Front loading development) to produce highly accurate drawings

・To produce accurate drawings quickly and with less rework by performing various verifications and analyses within the digital environment for early drawing maturity and design man-hours reduction.

・Calculating reasonable costs using 3D digital models

Honda and Honda R&D's IT departments have evolved and developed by utilizing the latest technologies of each era, such as mainframes, open networks, and cloud computing.

Since the 1980s, Honda has been working to share data and systems globally by connecting Honda bases around the world via a communications network in response to the company's expanding business overseas.

In the late 1990s, each person in the office had a PC, and a company-wide e-mail system was introduced as a new communication tool. In response to changes in work styles, Honda is enhancing functions to enable telecommuting, remote meetings, etc. on a global scale.

7-2 : Consolidation of IT Systems Division

In order to improve IT system development, visualization of Honda's business, manufacturing efficiency, customer experience, day-to-day operational efficiency, and work environment, Honda's IT Operations and Honda R&D's Digital Reform Management Division were merged in April 2022, becoming the Digital Management Department

7-3 : Honda's IT Systems Division's Goals

The role of the Digital Management Department is to maintain Honda's competitive advantage by increasing business efficiency and speed of business transformation through reform of business processes using digital technology.

In addition to promoting reform by participating in business reform and digital transformation planning, the Digital Management Department aims to improve system quality and shorten delivery time and achieve efficient development by focusing on the initial process (front-end) in system development and investing resources intensively to improve quality at the specification stage, and reduce defects and rework.

7-4 : Honda Initiatives Chronology

	1960s	1970s	1980s	1990s	2000s	2010s	2020s
Sales System	●'65 System for issuing motorcycle monthly sales report at the beginning of each month. ●'66 Payment collection system for export goods	●'70 Logistics management system for domestic automobiles ●'77 Export sales management system	●'88 Automobile dealer support system ●'84 Domestic automobile sales and logistics system ●'84 Domestic motorcycle logistics system	●'92 Export sales logistics system ●'96 Shortened lead time for domestic automobiles (LT20)	●'03 Domestic automobile distributor system ●'03 Domestic motorcycle dealership management system ●'04 Domestic automobile sales information analysis system	●'15 Negotiation function for domestic automobile dealership system	●'21 Subscription function for domestic automobile distributor system
Production system	●'68 Saitama Factory production control system Started system project	●'70 Calculation Management Section established at each factory Production operation system commenced at each factory	●'82 Company-wide factory online component parts list ●'85 Company-wide integrated production control system (TARGET) ●'86 Started exchanging data with suppliers	●'95 Company-wide integrated overseas production support system	●'02 Global Production Control System (GPCS) Introduced in North America, China and Asia ●'02 Global Process Control System Introduced in North America, China, Asia, Europe, and South America ●'06 Drawing Distribution and Design Change Notification System	●'11 Constructed global components list deployment ●'13 Yorii Factory GPCS in Japan	●'20 Overseas manufacturing parts import/export system
Parts after-sales system		●'72 Realtime updating of parts center inventory and automatic replenishment ●'78 Started online development with all parts centers	●'86 New parts ordering system ●'86 Market quality information system ●'88 Parts online ordering to motorcycle dealers	●'95 Electronic parts catalog ●'96 Supported establishment of the Asia Parts Center	●'02 A system to promote measures against defects in market quality ●'03 Maintenance support information system ●'06 System for producing and viewing maintenance manuals ●'07 Parts warehouse management system	●'16 Global compensation repair management system ●'19 New repair parts management system	
Business administration systems	●'65 Started outputting management forms by computer	●'76 Company-wide unified system (personnel, payroll, cost, purchasing, fixed assets)	●'85 Health management system - Integrated OA system (work management, cafeteria accounting, conference room reservations) - Electronic voucher system ●'86 Consolidated accounting system ●'88 Personnel system	●'94 Payroll system ●'97 Global profit management system	●'02 Unified accounting system	●'14 Global standardized accounting system ●'16 Per vehicle cost and revenue management system	
System Infrastructure		●'70 Overseas data exchange by telex for export system ●'79 Started data exchange with overseas for parts export sales	●'84 Integrated international communications system connecting Japan, the U.S., and Europe ●'86 Completion of domestic high-speed digital communication network	●'94 International integrated telecommunications network connecting five regions around the world with high-speed, high-capacity lines ●'91 Construction of Wako System Center Building		●'15 Global standard Introduced communication infrastructure	
Organization	●'64 Establishment of Office Streamlining Liaison Office in the Administration Department		●'82 Establishment of Information System Department		●'01 Separation of planning and development from maintenance and operation to increase development volume ●'05 Reorganization aligned with system life cycle	●'12 Establishment of IT Operations ●'16 Establishment of cyber security promotion department	●'22 Establishment of Digital management department

7-5 : Honda R&D Initiatives Chronology

	1960s	1970s	1980s	1990s	2000s	2010s	2020s
Infrastructure Information System			●'85 Parts procurement system ●'88 Timecard management system	●'92 Purchasing system ●'95 E-mail		●'11 Wireless LAN	
Computer-aided design			●'81 2D CAD ●'82 3D CAD			●'07 Commenced CAD data quality improvement activities	
Computer simulation		●'78 Structural analysis	●'82 NVH analysis ●'84 Fluid analysis ●'85 Supercomputer ●'86 Crash analysis ●'88 Wear analysis		●'03 Acoustic analysis	●'14 1D analysis ●'14 MBSE ●'16 Water-cooled supercomputer	
Engineering Data Management		●'78 Parts list system		●'93 Drawing system	●'01 Integrated drawing system for basic product information ●'08 Constructed PLM system ●'08 Export management system	●'11 CAE data management system ●'14 Constructed test data management system	
Organization		●'78 Establishment of Technical Calculation Block		●'95 Establishment of CIS Block		●'19 Establishment of Digital Solution Center ●'16 Establishment of Digital Development Promotion Office	●'20 Establishment of Digital Reform Department ●'22 Establishment of Digital Administration Department