Human capital development to become a global leader in social innovation business

Kazuyoshi Torii
Hitachi Academy
About Hitachi and Hitachi Academy

Hitachi’s approach to the following challenges:

(1) Globalization & Diversification of HR

(2) Reskilling

(3) Tech. education

(4) Executive education
1-1. About Hitachi

Hitachi started its history as a spin-off startup of Kuhara copper mine in 1910. (Incorporated in 1920)

Harmony, Sincerity, Pioneering Spirit

Contribute to society through the development of superior, original technology and products

<table>
<thead>
<tr>
<th>Description</th>
<th>FY 2020</th>
<th>Overseas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>8729 B¥</td>
<td>52%</td>
</tr>
<tr>
<td>EBIT</td>
<td>850 B¥</td>
<td>9.7%</td>
</tr>
<tr>
<td>Number of Employees</td>
<td>350,854</td>
<td>55%</td>
</tr>
<tr>
<td>Number of subsidiary</td>
<td>871</td>
<td>82%</td>
</tr>
</tbody>
</table>

Founder: Namihei Odaira

Origin of Hitachi: Machine repair shop

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1-2. Hitachi’s business portfolio

Revenue ¥8,729 billion in FY2020

- Mobility: 22%
- Energy: 13%
- Industry: 13%
- Smart Life: 13%
- Automotive systems: 10%
- Hitachi Construction Machinery: 8%
- Hitachi Metals: 8%
- IT: 5%
- Others: 22%
1-3. History of Hitachi’s L&D

Hitachi integrated three training institutions of Hitachi group to be “Hitachi Academy” in 2019 to combine experience and knowledge gained from the development of human capital in the fields of management, IT, and OT & products.
1-4. about Hitachi Academy

Established
1st April 2019

Capital
¥100M (Hitachi Ltd. 100%)

Representative
Representative Executive Officer, President
Raizo Sakota

Board member
Eiko Tersasaki, Kazuyoshi Torii

Number of employees
465 (March 2022)

VISION
Contribute to society by cultivating world-class human capital and embedding Hitachi’s corporate spirit throughout the Hitachi group’s companies globally.

MISSION
Be a world-class knowledge hub that connects people and inspires learning

About 160,000 Hitachi Gr. Employees took courses

about 1,300 courses were provided to Hitachi Group companies
Globalization & Diversification of HR

How to overcome the difficulty caused by the diversification of human resources (globalization, recruitment methods, changes in talent development system), which makes it difficult to maintain the fairness of evaluation methods for human resources, and in ability evaluation for promotion and transfers.
2-1. Change in Hitachi’s business portfolio

After the Lehman shock, Hitachi implemented drastic structural reforms to focus on social innovation business and transform it into a global company.

Source: Hitachi Integrated Report 2021
2-2. Globalization of Human capital in Hitachi

The number of overseas employees has increased with the changes in our business portfolio over the last decade. It exceeded 50% for the first time in 2020.

Source: Hitachi Sustainability Report
2-3. Diversification of Human Capital

The ratio of female and foreign executive officers and executive officers have reached 10% in 2021. Hitachi has set a new target of 30% ratio by 2030.

Source: Hitachi Integrated Report 2021
## 2-4. Global HR Management Initiatives

<table>
<thead>
<tr>
<th>Year</th>
<th>Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY2012</td>
<td>Global HR Database, database for about 250,000 people</td>
</tr>
<tr>
<td></td>
<td>Global Leadership Development, Build 500 Global Top Talent pool and provide training</td>
</tr>
<tr>
<td>FY2013</td>
<td>Hitachi Global Grade (HGG), 50,000 managerial-level positions worldwide</td>
</tr>
<tr>
<td></td>
<td>Hitachi Insights (worldwide employee survey), 700 companies, 14 Languages, 180,000 people (86%) answered the survey</td>
</tr>
<tr>
<td>FY2014</td>
<td>Global Performance Management (GPM), 112,000 employees</td>
</tr>
<tr>
<td></td>
<td>Global Compensation Philosophy, pay-for-performance, Eliminate seniority reward for manager and above</td>
</tr>
<tr>
<td>FY2015</td>
<td>Hitachi University (LMS), 300,000 users</td>
</tr>
<tr>
<td></td>
<td>Human capital management platform (HiNext), Start in 2018, 140,000 in FY19, 300,000 in FY2021</td>
</tr>
</tbody>
</table>

Introducing a human capital management platform common to the entire group companies globally.
Reskilling

Increasing importance of support for job change, reskilling, and recurrent education due to aging society and personnel shortage (re-employment / mid-career hire).
3-1. Outline of reskilling related activities

Push the person’s back (motivate)
Change mindset
Participants are asked to express in words what they want to achieve in their lives, which leads to finding satisfying work opportunities.

Sets of Learning-contents for reskilling
Learn the skills to turn each person’s experience and knowledge into value

Develop supporter
Manager Training
Learn how to write a To-Be Job Description based on business strategy and how to support subordinates’ career development

Concierge service promoting learning habits
- Recommend learning contents good for target skills using AI engine
- Share learnings through daily work
3-2. Hitachi’s growth strategy

Create “Social value”, “Environmental value”, and “Economic value” by “Social innovation business” resolving social and management issues using business domain knowledge, co-creation and digital tech.

- **OT**: Digitalize tacit “Genba” knowledge and make it artificial intelligence
- **IT**: Digitalize customers’ business process through co-creation
- **Product**: Scale up business globally through strategic partnership using strength in OT & IT
### 3-3. Train as a Service in UK (Example of social innovation business)

#### Previous needs
**Good products and systems**
- **Train operator**
  - We want rolling stocks that don’t break down

#### Current needs
**An era of seeking the value of services**
- **Train operator**
  - We need stable and on-time train operation, but don’t want to have asset.

### Train as a Service: providing maintained train on schedule for IEP in UK

(27.5 years contract providing 866 rolling stocks on a lease and maintenance service)

#### Customer issues
- Aged railroad tracks and rolling stocks causes delay and accidents
- Need rolling stock with flexibility to run on a number of different lines with different infrastructure including non-electrified sections

#### Solution
- **OT&IT:** Condition based maintenance using remote status monitoring by IoT and failure mode analysis
- **Extension of parts replacement cycle, optimization of inventory and supply chain**
- **Product:** Standardized intermediate cars having generators with diesel engines
  - Lightweight aluminum car bodies and self-supporting interior modules
- **Biz. Model:** Set up JV with financial partners to own and lease the rolling stocks

#### Value proposition
- On-time, environment-friendly, safe and comfortable train operation
- Shortening travel time, improving user convenience, revitalizing the local economy

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IPE: Intercity Express Programme
3-4. Training on DX

Training on digital transformation to accelerate “Social Innovation Business”

Training from IT utilization to development of IT professionals

Training on business skills to increase economic value

Training on Operational Technology and manufacturing

Biz : Business  OT : Operational Technology

>110 DX courses

【above Basic Level】
3-5. Human capital development for DX

Hitachi accelerate development of human capital leading DX to expand its Social Innovation Business

- **Design thinker**
  - Lead finding essential issues, formulating solutions, and consensus building

- **Data scientist**
  - Utilize data by making full use of mathematical statistics and artificial intelligence

- **Domain expert**
  - Promote and support the application of solutions to the field using OT/domain knowledge

- **Cyber security specialist**
  - Supporting from planning to operation, both cyber and physical systems

- **System engineer**
  - Design, implement, and operate systems that utilizes digital technology

**Customer co-creation**
3-6. DX human capital development

**Skill level**
- **Basic**
- **Advance**
- **Professional**

**Expected ability**
- **Basic literacy**: Have basic knowledge about digital technology and can understand the basic contents of Hitachi’s digital business.
- **Advance**: Have the necessary digital knowledge and can practice as a member under the direction of the leader.
- **Professional**: Can lead the role as the main person in charge.

**Role**
- **Project Leader**
- **Member**

**Development**
- **Take Hitachi Academy’s training courses**
- **Gain practical experience in actual projects, on the premise of basic skills have acquired**
- **Digital literacy exercise**: 4 steps, 5 courses of e-learning package to understand DX.

- **10,000 employees have finished the courses**
- **160,000 employees have learned in total**
3-7. DX literacy improvement program

Digital literacy exercise
4 steps, 5 courses, which promotes the development of a mindset to recognize DX as one’s own thing and the basic understanding of DX.

160,000 employees have learned in total
Step 1
I don’t really understand

Step 2
I can’t imagine the relationship with my business

Step 3
I have an idea, but don’t know how to start

Step 4
I have not the skill to verify the feasibility

Objective
Encourage and support self-driven and continuous learning

Useful Links for DX
Make it easier to search for DX information of inside and outside Hitachi

One-point contents for DX
To be able to learn in the gap time of daily work

<table>
<thead>
<tr>
<th>Title</th>
<th>Summary</th>
<th>Tag</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital solution QA portal site</td>
<td>Visit this site if you have any difficulty in QA of digital solution</td>
<td>&lt;proposal&gt;, &lt;project&gt;, &lt;contract&gt;, &lt;system development&gt;, &lt;QA&gt;</td>
</tr>
<tr>
<td>IP guideline to proceed Social innovation business</td>
<td>You can understand the IP risks</td>
<td>&lt;IP&gt;, &lt;Contract&gt;, &lt;proposal&gt;, &lt;Risk management&gt;</td>
</tr>
<tr>
<td>Contract template for Agile development</td>
<td>You can find template and check list for Agile development</td>
<td>&lt;Agile&gt;, &lt;Contract&gt;, &lt;Proposal&gt;, &lt;Project management&gt;</td>
</tr>
<tr>
<td>QA guideline for AI products</td>
<td>Visit this site if you have any difficulty in QA of AI products</td>
<td>&lt;AI&gt;, &lt;QA&gt;, &lt;Risk&gt;, &lt;Guideline&gt;</td>
</tr>
</tbody>
</table>

Filter by Tag
Filter by Key word

Value that Digital brings
What DX is?
Technology required for DX
Techniques that support DX

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Tech. Education

Rapid technology progress and expanding required range of technology makes it difficult to provide all the required training and education in-house.
# 4-1. Training courses on Hard skills

<table>
<thead>
<tr>
<th>Courses</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DX</strong></td>
<td>110</td>
</tr>
<tr>
<td>Mechanics/Material</td>
<td>30</td>
</tr>
<tr>
<td>Electronics</td>
<td>30</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>40</td>
</tr>
<tr>
<td>Line management</td>
<td>50</td>
</tr>
<tr>
<td>QA</td>
<td>30</td>
</tr>
<tr>
<td><strong>OT</strong></td>
<td>180</td>
</tr>
<tr>
<td>IT Fundamentals</td>
<td>190</td>
</tr>
<tr>
<td>(Cloud, Virtualization, Security, OS, MS, DB, NW)</td>
<td></td>
</tr>
<tr>
<td>IT products</td>
<td>150</td>
</tr>
<tr>
<td>(Middle ware, Hard, Storage, RPA)</td>
<td></td>
</tr>
<tr>
<td>System development &amp; operation</td>
<td>180</td>
</tr>
<tr>
<td>Project management</td>
<td>100</td>
</tr>
</tbody>
</table>

Deepen understanding through exercises, experiments, and group discussion
4-2. Product innovation using other domains’ knowledge

Washing machine + Turbine design technology = Dryer with 360km/m Wind
Objective: Develop engineers who can integrate technologies in different domains
1. Understand the structure of technological/academic knowledge
2. Develop the habit of self-driven learning and time management
Period: 59 days in one year
### 4-4. Program structure of IED

<table>
<thead>
<tr>
<th></th>
<th>1st Half</th>
<th>2nd Half</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td><strong>Mechanical system</strong></td>
<td><strong>Mechanical system</strong></td>
</tr>
<tr>
<td></td>
<td>A1 Mechanics</td>
<td>A2 Mechanical system</td>
</tr>
<tr>
<td></td>
<td>• Material structural mechanics</td>
<td>• Control engineering</td>
</tr>
<tr>
<td></td>
<td>• Materials engineering</td>
<td>• Quality management</td>
</tr>
<tr>
<td></td>
<td>• Mechanical mechanics</td>
<td>• Computational engineering</td>
</tr>
<tr>
<td></td>
<td>• Heat transfer engineering</td>
<td>• Design engineering</td>
</tr>
<tr>
<td>B</td>
<td><strong>Electrical / Electronic system</strong></td>
<td><strong>Electrical energy system</strong></td>
</tr>
<tr>
<td></td>
<td>B1 Electronics</td>
<td>B2 Electrical energy system</td>
</tr>
<tr>
<td></td>
<td>• Analog electronic circuit</td>
<td>• Battery</td>
</tr>
<tr>
<td></td>
<td>• Digital circuit</td>
<td>• Power electronics</td>
</tr>
<tr>
<td></td>
<td>• Electronics system and implementation</td>
<td>• Control engineering</td>
</tr>
<tr>
<td></td>
<td>• Digital signal processing</td>
<td>• Power system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Embedded system</td>
</tr>
<tr>
<td>C</td>
<td><strong>IT / software</strong></td>
<td><strong>IT solution</strong></td>
</tr>
<tr>
<td></td>
<td>C1 IT Basics</td>
<td>C2 IT solution</td>
</tr>
<tr>
<td></td>
<td>• Software engineering</td>
<td>• Hardware architecture</td>
</tr>
<tr>
<td></td>
<td>• Object-oriented development theory</td>
<td>• Data science and its applications</td>
</tr>
<tr>
<td></td>
<td>• Operating system</td>
<td>• Information communication and security</td>
</tr>
<tr>
<td></td>
<td>• Database data management</td>
<td>• Quality management / compliance</td>
</tr>
<tr>
<td>D</td>
<td><strong>Digital system</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td><strong>Mechatronic power system</strong></td>
<td></td>
</tr>
<tr>
<td>F</td>
<td><strong>Mechatronics &amp; Electronics</strong></td>
<td></td>
</tr>
<tr>
<td>G</td>
<td><strong>Embedded power system</strong></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td><strong>Control</strong></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td><strong>Machine information</strong></td>
<td></td>
</tr>
</tbody>
</table>
# 4-6. Leading edge technology seminar

<table>
<thead>
<tr>
<th>Thema</th>
<th>Title</th>
</tr>
</thead>
</table>
| **Quantum computing** | Discovering combinatorial optimization problems and creating value by applying quantum technology  
- Introduction of CMOS annealing machine utilization techniques and examples, and application to practical issues from participants |
| **Design**         | "Design power" is what creates the outstanding concept  
- Seven design powers to complete advanced development |
| **Innovation**     | Effectuation  
- Learn the way of thinking that creates innovation  
- How to perceive customer value giving breakthrough to the mature business and how to draw an innovation concept  
- Business creation through in-house technology inventory and combination of the technologies for creating new value  
- Fusion of co-creation and technology to transcend organizational barriers |
| **AI**             | Forefront of design support by AI / analytics |
| **Data Robot**     | Hands-on training of Data Robot  
- Creation of machine learning model using AI automation platform |
Executive education

The sense of crisis that consciousness of top managements and managers cannot keep up with the changes of the times, and the need for executive education to respond to it and changes in its content
5-1. The first corporate university in JAPAN

Established in 1961, learning from GE Crotonville
5-2. Global Leadership Development (GLD) program

Objective
Securing and training executives who can lead businesses changing dynamically and faster than ever before

Goal
Securing and nurturing executive candidates to realize Hitachi’s growth strategies. Make it possible to allocate the most suitable human resources holding key positions of business operations, regardless of age, gender, nationality, academic background, inside or outside the Hitachi Group.

Approach

Previous 「Select」
✓ Seniority-based, progressive
✓ Internal excellent human resources (Clever but tend to make a safe choice)
✓ Less experienced in tough assignment

Current 「Develop」
Step1 Select key positions
Step2 Define the role and requirements for the position
Step3 Find candidates
Step4 Asses the candidates
Step5 Develop the candidates
5-3. Examples of “Tough Assignment”

- **Launch new business**  
  (Development of new markets, launch of new products, new bases, etc.)
- **JV, Alliance, M&A (DD, negotiation, PMI)**
- **Business rebuilding**  
  (business withdrawal, sluggish business rebuilding, etc.)
- **Completion of difficult projects**  
  (large deficit PJ, company-wide PJ, etc.)
- **Management of human resources with different cultures and values**  
  (Outside dispatch, secondment to oversea subsidiaries, etc.)
- **Management experience responsible for income and expenditure**  
  (President or executive officers of group companies)
## 5-4. Leader/Executive development programs

<table>
<thead>
<tr>
<th>HGG</th>
<th>Position Level</th>
<th>Fast-track programs for high-potentials</th>
<th>Manager Milestone Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Executives</td>
<td>Management / Leaders / Innovation Leaders</td>
<td>Global / Domestic</td>
</tr>
<tr>
<td></td>
<td>Directors</td>
<td></td>
<td>GAP-V2.0 Japanese ver.</td>
</tr>
<tr>
<td></td>
<td>Managers</td>
<td></td>
<td>GAP-M2.0 (CD)(EF) Japanese ver.</td>
</tr>
<tr>
<td>E-F</td>
<td>New Managers</td>
<td></td>
<td>GAP-B2.0 Japanese ver.</td>
</tr>
</tbody>
</table>

*In addition to the fast-track programs, corporate headquarters also offers personalized programs for high-potential employees.

### GAP-K
- Global Acceleration Program for Key Positions

### GAP-L
- Global Advanced Program for Leadership Development

### GEC
- Hitachi Group Executive Development Course

### GAP-V
- Global Advanced Program for Value Creation

### GAP-M
- Global Acceleration Program for Managers

### GAP-B
- GAP-M Basic Course

### R2L
- Ready to Lead

### Global GEC
- Global Group Executive Development Course
5-5. Change Managers mindset

**Objective**
Make managers aware that they need to lead the DX by themselves.

**DX Lecture**
Get motivated and hints from DX pioneers in various businesses and themes.

**Teams community**
Make DX information available on a daily basis.

**11 Lectures in 2021**
3200 participants (Div. Managers & above)
9700 participants in total

**2,400 registrants**
Active users: 87%

**Challenges and Countermeasures Faced in Promoting Digital Transformation [DX]**

1/31 Mon.
- Siemens Digital Strategy
  ~IT·OT integrated solutions for Industry sector~

3/12 Fri.
- What is the ideal business in the after-digital era?

6/4 Fri.
- Roads and points for creating a global BtoB business that solves social issues with products and IT

9/15 Wed.
- Solve social issues through business
  How to proceed with “To Be type” plan formulation

10/18 Mon.
- DX with on-site personnel playing the leading role

11/19 Fri.
- What is the ideal business in the after-digital era?
We defined the 5 stages of action, and tried to grasp whether the participants (>Div. managers) are moving to higher-ranking actions through a questionnaire once every three months,

>80% of the participants said “I will take action“

~45% of the participants are taking actions to their colleagues and subordinates.

Please tell us about your DX efforts!

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Not motivated</td>
<td>10%</td>
</tr>
<tr>
<td>2</td>
<td>Saying “I will take action“</td>
<td>80%</td>
</tr>
<tr>
<td>3</td>
<td>Start investigation</td>
<td>50%</td>
</tr>
<tr>
<td>4</td>
<td>Start Information sharing, discussion, or other actions</td>
<td>30%</td>
</tr>
<tr>
<td>5</td>
<td>Set specific goals and plans</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>Taking actions such as building an execution team, verification of hypothesis through discussions with customers.</td>
<td></td>
</tr>
</tbody>
</table>
6. Summary

(1) Globalization & Diversification of HR
Hitachi made effort to overcome the difficulties with globalization and diversification in last 10 years such as GLD, GPM, HGG, Hitachi Insights, and HiNext

(2) Reskilling
Start re-skilling with Four pillar activities:
① Motivate, ②Manager support, ③Contents, and ④Concierge service
DX, IT related reskilling steps ahead to OT

(3) Tech. education
Deepen understanding through exercises and experiments
Providing cutting-edge technical information in cooperation with R&D and external experts

(4) Executive education
DX lecture series and Teams community to change management level employees’ mindset