Innovation beyond smart, with vision

Exploiting Vision Design to engage staff and inspire co-creation

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Hitachi’s Origin

Harmony, Sincerity and Pioneering Spirit

Founder Namihei Odaira
100 Years of OT, 50 Years of IT, and Responding to the IoT Era

1910
OT
Operational Technology
EPC・O&M

1960
IT
Information Technology
System Integration

2010
IoT
Internet of Things
Digital Solution

- High-speed train
- Nuclear reactor
- Traffic control system
- 5 HP motor
- Electric locomotive
- Ultrasound Imaging system
- Mainframe
- Computer
- Storage
- IoT Platform
- Pentaho
- System Integration
- Digital Solution
- AI
- EPC・O&M
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What Hitachi hopes to become

An Innovation Partner for the IoT Era

Accelerate collaborative creation with customers through Advanced Social Innovation Business

Four Focus Business Domains

- Power • Energy
- Industry • Distribution • Water
- Urban
- Finance • Public • Healthcare

OT + IT + Products
Change how to create business

How to create business

Explore and find business opportunities and make business with customer growth.

Customer's demand

Foreseeable era
Delivery of products & services that meet customer needs

Era of uncertainty
Being a partner who shares & solves future problems together

How to develop, make and deliver products and services in the existing market.
What is Hitachi trying to achieve?

Super Smart Society

Society 5.0

A society where everyone can live with vitality and in comfort

Cabinet Office, Government of Japan - 5th Science and Technology Basic Plan

Society 1.0
Hunting and gathering society

Society 2.0
Agricultural society

Society 3.0
Industrial society

Society 4.0
Information society

Society 5.0
??
What is Hitachi trying to achieve?

Exploring the scenario

Society with a declining population

Population in Japan

Rate of people aged 65 or older

Super Smart Society

Society 5.0

Cited from a whitepaper in 2015 by Cabinet Office, Government Of Japan
Nobody shows how to create a social innovation.
What are the social challenges that should be solved?
Don’t just be smart, go beyond smart.

In an uncertain era, smart and advanced technologies might eventually bring new issues to the society, like traffic jam caused by too many cars.
Vision Design ≠ Solutions
Concept of Vision Design

Question
What are the societal challenges that we are facing?

Answer
How can we solve them?

Vision Design ≠ Solutions
Concept of Vision Design

**Societal issue**
- e.g. Reducing CO$_2$ emissions

**Question**
- What are the societal challenges that we are facing?

**Answer**
- How can we solve them?

**Smart Technology**
- e.g. micro grid
Concept of Vision Design

Societal issue: e.g. Reducing CO$_2$ emissions

Question
from the standpoint of citizens

e.g.
How can centralized grids in our town be replaced by micro grids?

Answer
Hypothesis for a new infrastructure system

e.g.
Increasing electricity trading between users

Creating a humane social system
Relationship with Cambridge Consultants

Hitachi and Cambridge Consultants have been collaborating over the last three years

Radical Innovation

Learn by doing

- Think BIG > $50-100m
- Use agile innovation framework
- Plan smart, focus on risk

Beyond Smart Project
Our Challenge

Our team talked to Cambridge Consultants when we were asked to illustrate our visions of the future.

- Global perspectives
- Agility
- Momentum
When people and goods are able to move beyond the boundaries even more quickly, what can technologies do for city and community development?

My meal pass to go!

Question: How can we enjoy mealtime with other people while worrying about the safety of the food we eat?

Answer: Leave your worry about dietary restrictions to the machine.
When more precise data analysis becomes available, how should technologies interact with people?

Ageing with me

**Question**
If the percentage of developing dementia is informed to each person, how can technologies ease the anxiety they feel?

**Answer**
A robot can become a companion of people, by noticing their small changes and shifting its roles depending on their needs.
Ageing with me

Point 1

Life assist robot to encourage communication with elderly people

Instead of being a machine to prevent dementia, this robot will be a part of daily lives of the elderly as a life assistant who provides daily support such as shopping. Without waiting for instructions, the robot reminds medication and offers opportunities to communicate with the elderly with rich facial expression, so they are encouraged to have more conversations.
Point 2

Being aware of any small changes

The robot will notice any small changes even though they are easily overlooked by people who have a long relationship with the elderly. The robot will not cause anxiety, because it asks questions gently, such as “You’ve bought a lot of apples. Are you giving some away?”
Point 3
Changing roles depending on the partner’s needs

The communication robot will change its roles, detecting the behavior change of the elderly. Instead of offering tests and training, it changes its communication approach. For example, it asks questions, such as “What kind of pie did you bake last year?” to remind her and prevent cognitive decline.
CREATING VISIONS OF THE FUTURE

Painting a picture of what life could be like
CREATING VISIONS OF THE FUTURE

Plausible futures based on mega trends, societal changes and technology developments
CREATING VISIONS OF THE FUTURE

Plausible futures based on mega trends, societal changes and technology developments

Which trends and developments will drive the most significant change?

Which combinations of trends would result in a very different society?
CREATING VISIONS OF THE FUTURE

Creating distinctly different visions of the future
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CREATING VISIONS OF THE FUTURE

Staying ‘inside’ a future vision is hard, but worthwhile in creating our futuristic concepts.
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CREATING VISIONS OF THE FUTURE

Painting a picture of what life could be like in a society ‘Beyond Safety’
Use cultural differences as catalysts to look at things anew
Use cultural differences as catalysts to look at things anew

Intense teamwork and collaboration across geographies and cultures
Use cultural differences as catalysts to look at things anew

OUR APPROACH

Intense teamwork and collaboration across geographies and cultures

Mix of Japanese and global insights
Use cultural differences as catalysts to look at things anew

Intense teamwork and collaboration across geographies and cultures

Mix of Japanese and global insights

Creativity sparkles because of new stimuli
Why do visioning, what are the benefits in doing this?

ILLUMINATE

INSPIRE

INITIATE
Why do visioning, what are the benefits in doing this?

ILLUMINATE

KEY TRENDS  BACKCASTING  R&D STRATEGY
Why do visioning, what are the benefits in doing this?

INSPIRE

THROUGH COLLABORATION

BEYOND THE PROJECT TEAM
Why do visioning, what are the benefits in doing this?

**INITIATE**

**CONVERSATION**

**CO-CREATION**

**INNOVATION**
Cycle of Vision Design

1. Create visions

2. Promote & Discuss visions

3. Prototype visions

4. Discovering business opportunities with partners

- Humanizing public safety
  - Patrolling robots in the town provide a visible response and reassurance to residents

- Connected home

- Urban digital solution

- Digital education
Key take-aways...

1. Use Vision Design to explore future social systems and identify potential business opportunities

2. Explore distinctly different futures and stretch these as far as possible to maximise the inspirational effect

3. Bring the visions to life in movies and prototypes, so people can gain insight into what value new technologies can bring to people’s lives

4. Conduct backcasting and initiate new product and service developments to drive future business success