I. HYPERPOST／Greenhouse Management System can be used to visualize field conditions (EC and pH levels, temperature, moisture, solar radiation intensity, etc.) and crop growth levels (growth status photos, harvest volume, etc.) using tablet pc’s and cloud technologies. This agriculture ICT system enables farm managers to check data remotely and provide expert guidance and support.

II. This system can be customized to accommodate various farms. Sensors installed within these farms collect data which is utilized for automated operation of farming devices. This enhances efficiency of water, power, and fuel, resulting in ideal production environments. The system can also respond to sudden weather changes automatically, effectively minimizing any damage done to the farm and crops.

III. Japanese agricultural techniques allow farms to cultivate and harvest safe, delicious produce to accommodate oversea farming conditions. Supporting farming activities overseas can also contribute to eradicating rural poverty.
By utilizing a cloud server, cultivation data, operation records, and growth data can be aggregated and visualized.

The data can be used to conduct detailed analysis of farm conditions, providing insight for pest control, improved crop quality, and stable cultivation. The farming knowledge obtained can then be shared with other crop cultivators and farms around the globe.

**Collect and visualize data**
- In greenhouse (above ground): temperature, moisture, CO₂ concentration, images
- In greenhouse (underground): EC, flow velocity, liquid temperature
- Outside greenhouse: temperature, moisture, rain volume, solar radiation intensity, wind direction and speed

**Monitoring/Data Analysis**

**Cultivation instruction**

**Sharing farming data**

**Farming support, Cultivation advice**
This system is also being utilized in global farming projects. Agricultural production entities comprised of Japan’s farming experts have adopted this system for India’s ICHIGO Project under which it supports strawberry farming in India. The system has become a key component in providing agricultural support on a global scale.

**India’s ICHIGO Project**

*Strawberry farm (India)*

The farm staff in India register data on field conditions (EC and pH levels, temperature, moisture, solar radiation intensity, etc.) and crop growth levels (growth status photos, harvest volume, etc.).

**Expert support**

Agricultural production entities farming experts in Japan analyze the data every day. Cultivation-related inquiry response and advice from farming experts are registered into the system.

**Inquiry**

**Response**

**Review and Analyze**

NEC’s Data Center aggregates farm data. It also provides a web application that enables users in Japan and India to review and analyze data regarding environmental conditions and growth levels to engage in Q&A sessions.

Achieved a stable supply of high-quality strawberries, and succeeded in building a successful brand.

Garnering attention as India’s high-quality brand
Environmental benefits: HYPERPOST／Greenhouse Management System

Among the eight risks of climate change indicated in United Nations Intergovernmental Panel on Climate Change (IPCC), the risks identified below can be mitigated:
(See “The eight risks of climate change” on the following page)
(The numbered items below correspond to the following slide)

5. **Threat to food security caused by rising temperatures and drought**
   Minimize food supply risks caused by rising temperatures, drought, etc.
   by sharing field conditions and growth level data between farm managers and experts for maximum risk reduction.

6. **Loss of income in rural areas due to reduced agricultural productivity caused by insufficient water resources**
   Involvement in global farm projects gives us the opportunity to introduce production of new agricultural products, which can in turn help increase/improve harvest quality and revitalize on-site resource procurement and distribution.

   We strongly believe the offering of a **stable/diversified source of revenue and minimized income reduction** will contribute to lower poverty rates.
The Eight Risks of Climate Change

1. Damage caused by rising sea levels and storm surge in coastal areas
2. Damage caused by flooding in urban areas
3. Breakdown of infrastructure and other functions due to extreme weather events
4. Death and ill health caused by heat waves which particularly affect vulnerable groups in urban areas
5. Threat to food security caused by rising temperatures and drought
6. Loss of livelihood and income in rural areas due to insufficient water resources and reduced agricultural productivity
7. Loss of marine ecosystems vital to coastal water areas
8. Loss of services provided by terrestrial and inland water ecosystems