

# Universal Design

## Basic Approach

Approach

The Toppan Group realizes the social value of universal design (UD). Since pioneering a UD packaging consulting service in 1999, Toppan has been consistently designing and producing attractive, easy-to-use UD packaging and communication tools for as many people as possible in every business field of the Group.

The Toppan Declaration on Universal Design and Toppan's

Seven Principles on Universal Design (both established in 2010) define UD as a guiding philosophy for developing products and services that "help realize a society with a high appreciation of diversity." By embracing UD approaches, Toppan assigns greater weight to dialogue with diverse people and the consideration of different physical abilities and perceptions, usage scenarios, and design parameters ("comfortable," etc.).



### Toppan Declaration on Universal Design

The starting point of our Universal Design is the provision of dedicated products and services realized through compassionate consideration of users.

By engaging in repeated dialogues with people from all walks of life and consistently incorporating the ideas of each person, we will create dedicated products that are comfortable, easier-to-use, and environment- and human-friendly.

As a corporation extensively involved in human life, we will help realize a society with a high appreciation of diversity through approaches to Universal Design.

Established in April 2010

## Action Policy

Policy

Universal design (UD) is one of the core concepts underpinning the business operations of the Toppan Group. In keeping with the Corporate Philosophy, the Group persistently embraces UD

challenges to help realize a society with a high appreciation of diversity.

Corporate  
Philosophy

Toppan Declaration  
on Universal Design

Toppan's Seven  
Principles on  
Universal Design

Guidelines for  
Universal Design

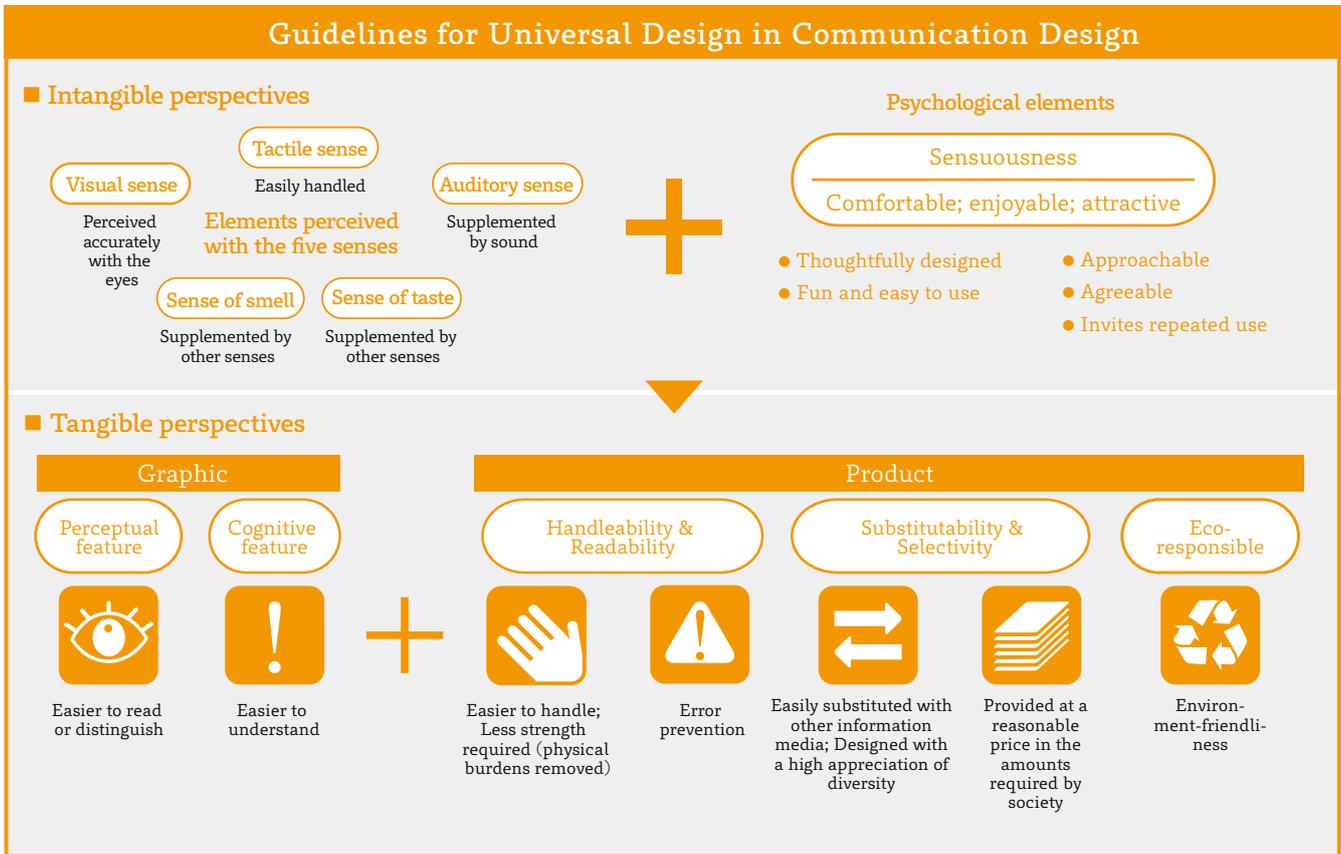
### Toppan's Seven Principles on Universal Design

1. Design products and services that are more responsive to people with different physical abilities and perceptions.
2. Facilitate communication using multiple channels for communication, including visual, aural, and tactile channels.
3. Make products easier to use by making them easier to understand.
4. Make products that are easier to move, easier to approach, and require less strength (remove the physical burdens).
5. Design products that are safe to use procedurally, functionally, structurally, materially, and environmentally.
6. Provide products at a reasonable price and in the amounts required by society.
7. Engage in design that appeals to the senses with consideration for comfort, enjoyment, and beauty.

Established in 2001  
Revised in April 2010

### ■ Toppan's Guidelines for Universal Design

The Toppan Group has been developing products and services based on its Guidelines for Universal Design in communication design and packaging.



## Initiatives in Fiscal 2020

Activity results, performance data

### Multilingual Digital Assistant BotFriends® Vision Series

#### Barrier-free Signage for Interfacing with AI



The multilingual AI signage BotFriends® Vision series are digital assistants that provide users with audio, text, and image guidance to help them find information optimally matched to their queries.

The newest BotFriends® Vision+ serves up both AI-generated wisdom and real-time answers from human service representatives working remotely.

Designed in consideration of people in wheelchairs, the BotFriends Vision terminals offer helpful guidance at public and commercial facilities.



### Initiatives for Fiscal 2020 and Beyond

#### BotFriends® Vision+ for Hybrid AI and Remote Human Responses

##### Welcoming Passengers at the Newest Station on the JR Yamanote Line

BotFriends® Vision and BotFriends® Vision+ serve passengers at Takanawa Gateway Station, a new station opened in March 2020 on JR-East's Yamanote Line circling inner Tokyo.

Answering queries through contactless, voice-only interaction, the BotFriends Vision terminals deliver safer operations for passengers and service representatives. These digital assistants are helping the station offer greater hospitality to Japanese and foreign visitors with enhanced convenience.



##### Serving at Four Major Stations in Northeast Japan

In April 2021, East Japan Railway Company installed BotFriends® Vision and BotFriends® Vision+ terminals at Sendai, Morioka, Akita, and Shin-Aomori stations in northeast Japan. The Vision+ terminals expand the Vision system by combining AI-generated wisdom with real-time remote human interaction.

These contactless AI-based terminals can offer passengers secure, useful guidance.



VoiceBiz®

Speech Translation App for Smooth Multilingual Communication



An intuitive, easy-to-use, voice-based translation service supporting 30 languages. Users can register proper names and fixed phrases. The VoiceBiz® application has a reverse translation function to help users check whether the delivered translation expresses what they want to say. Helpful for serving customers at counters and in stores and for providing business support for workers from other countries.



Initiatives in Fiscal 2020

Greater Language Capability and More Names and Phrases

The convenience of VoiceBiz® has now been enhanced. Listening carefully to the voices of VoiceBiz customers, Toppan has added Filipino speech translation capability and augmented its fixed-phrase lexicon with conversational phrases frequently used in governmental, educational, and medical settings. A survey function that captures customer needs in real time has also been built in to enrich and refine the functionality and translation accuracy of the system going forward.



IoA Virtual Teleportation®

Remote Experiences via Avatars and Robots



Based on the concept of the Internet of Abilities (IoA), the IoA Virtual Teleportation® technology allows people to transcend physical constraints online and enjoy remote experiences through an avatar or robotic twin in distant locations.



Initiatives in Fiscal 2020

IoA Work™ Remote-work Support Service

Using its IoA Virtual Teleportation® technology, Toppan has developed an IoA Work™ service to support innovative work approaches combining the virtual with the real. A prototype version IoA Work released on February 15, 2021 generates brand-new remote working environments that allow users to freely move between real and digital office spaces. KOKUYO Co., Ltd. has adopted IoA Work for combined use with its WORKPOD® personal workspace to create a customized IoAPOD™ work environment. A highly immersive experience conjured with curved displays and other digital technologies promises more effective remote communication both in digital twin offices through avatars and in real offices through robotic twins.



VR Experience of Dementia

An Interactive Tool for Understanding Dementia Sufferers



Simulated experiences of either having dementia or serving a customer with dementia are available with a smartphone and VRscope®. This VR simulation explains dementia and presents keys for serving customers affected with the condition. VR experiences facilitate viewer understanding of the behavior of dementia sufferers and help viewers learn how to support them.

Service overview of the VR dementia experience (in Japanese)



Initiatives in Fiscal 2020

VR Simulating what Dementia Sufferers Experience behind the Wheel

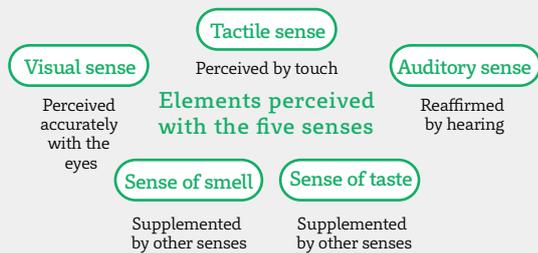
Local governments and other entities in Japanese society are working to address the rising incidence of automotive accidents caused by drivers with reduced cognitive function, primarily the elderly. Under the supervision of the Decision-Making Support Organization Japan, Toppan has worked with the Koreisha Anzen Unten Shien Kenkyukai (Research Group for Supporting Safe Driving by the Elderly) to produce new virtual reality (VR) content addressing dementia among elderly drivers. By simulating the experience of a driver with a cognitive disability behind the wheel, this VR production shows participants how to accurately recognize the signs of impaired cognitive function not only in others, but also in themselves.



\*Introduced in June 2021

## Guidelines for Universal Design in Packaging

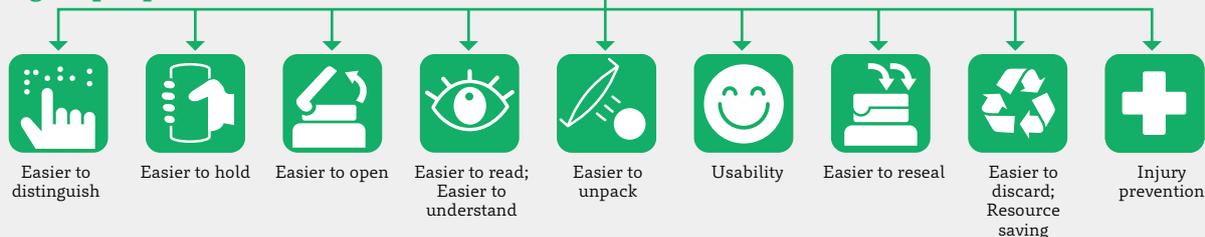
### Intangible perspectives



### Psychological elements

- Is understandable
  - Accommodates impairments in attention or memory
  - Is worry-free
  - Facilitates access to information
  - Accommodates changes in mood or temperament
  - Offers improved comfort and enjoyment
- other

### Tangible perspectives



## Initiatives in Fiscal 2020

Activity results, performance data

### Bottle-type Container for Antiseptic Wipes

#### Daily-life Packaging



The spring-action cap can be easily opened or closed with one hand. The innovative inner stopper ensures that the sheets are readily set and only pull out one at a time. Unlike earlier packaging for antiseptic wipes, this bottle-type container is designed in a sophisticated shape that blends in discreetly in room interiors to promote thorough disinfection in daily life.

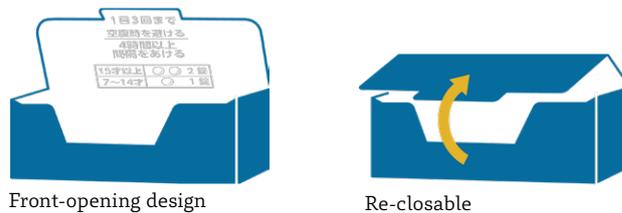


### Barrier-free Packaging for Pharmaceuticals

#### An Inclusive Package for Everyone



A user-friendly package with visual and tactile cues for medication use. Guided by intuitive tactile cues, anyone (from persons with visual impairments to persons from different cultures) can easily open the package from the front and quickly reclose it after the tablet is dispensed. Large-font printing inside clearly displays the usage and dosage information. An Accessible Code® (QR code) gives users access to the same information in audio formats in multiple languages. The debossing provides a tactile indication of where the information is printed.



## Biomass Plastic Container

### Convenient, Eco-beneficial Packaging



A four-leaf clover shape when viewed from above. Fashioned with four sides that contour gently inward, this package can be easily held by seniors and children.

The cup portion is partly composed of a biomass plastic derived from sugar cane. By incorporating biomass plastic, this eco-conscious packaging will reduce the consumption of an estimated 9.5 metric tons of fossil-fuel-derived plastic per year.



## Hand Hygiene Bottle with a Silicone Strap

### Go-anywhere Packaging



A constant supply of hand cleaner or hand soap on your travels from place to place. The bottle strap easily attaches to bags, strollers, or anything else you carry. Clean your hands with a personal supply of soap whenever you wish.

The simple, translucent silicone strap comes in pleasant colors and is adjustable to three length settings.



## Itadaki ("dig-in") Pouch

### A Package that Works as a Bowl



A microwavable, heat-resistant food pouch that stands and stays open on its own. Eat food directly from the pouch after simple microwave heating (no boiling or stovetop heating required).

Simplified meal preparation without cooking or washing holds great advantages for markets like Japan, a mature society with many seniors and singles. This package meets the demand for precooked foods that can be enjoyed with minimal preparation.



## Container for Sprinkle-type Seasonings

### Packaging that Sprinkles Smoothly



A grooved bottle shape for easier handling. Treated with a special process, this container eliminates the clumping of sprinkle-type seasonings that can occur when an open bottle top is exposed to moisture released from cooking. The hinged cap opens with a single action and reliably seals out air to reinforce the anti-clumping effect. A seasoning can be sprinkled out in just the right amount.

