

## **The Success Story of NEC, WalkOut & wheel.me**

# Creating the autonomous shopping cart

The Japanese multinational NEC teamed up with two startups, WalkOut & wheel.me, to create an autonomous shopping cart.

This is the story behind their collaboration.

The Innovation Partnership Success Stories is a series that focuses on key projects that emerged through our Brand & Retail platform.

[PNPTC.COM](https://pnptc.com)

**NEC**

**WALKOUT**  
SHOPPING WITH VISION

**wheel.me**  
move the immovable



We connect the best technology startups and the world's largest corporations.

FIND OUT MORE

## WE HELP YOU IN EVERY STEP OF YOUR INNOVATION JOURNEY

Partnering with the largest organizations worldwide gives us a line of sight to identify the main pain points affecting each industry. We then focus on sourcing the best startups that can provide the best solutions to these challenges.

By collaborating with startups, corporations increase operational efficiencies, lower costs, find new product lines, and become more innovative from the core.

30,000+

Carefully-curated international startups in our network

500+

Corporate Partners

30+

Offices Worldwide

## Global Reach

One of our greatest ambitions is to make our ecosystem accessible wherever you are. With offices across the world, we're proud to be the world's largest innovation platform by geographic reach.





# The Parties Involved

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## The Corporate Partner

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NEC Corporation is a leader in the integration of IT and network technologies that benefit businesses and people around the world. The NEC Group globally provides "Solutions for Society" that promote the safety, security, efficiency and equality of society. Under the company's corporate message of "Orchestrating a brighter world," NEC aims to help solve a wide range of challenging issues and to create new social value for the changing world of tomorrow.

[nec.com](https://nec.com)

## The Startups

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**WalkOut** is changing the way consumers shop in the physical world by replacing manual barcode scanning with an autonomous checkout system that mounts on top of existing carts and baskets, transforming them into smart and engaging points of sale.

[walkout.co](https://walkout.co)

**wheel.me** helps people improve the way they live and work by enabling everything indoors to move effortlessly on Smart Wheels. This Norway-based startup is primarily focused on the areas of robotics, IoT, artificial intelligence, indoor mobility, and indoor navigation.

[wheel.me](https://wheel.me)



# The Project

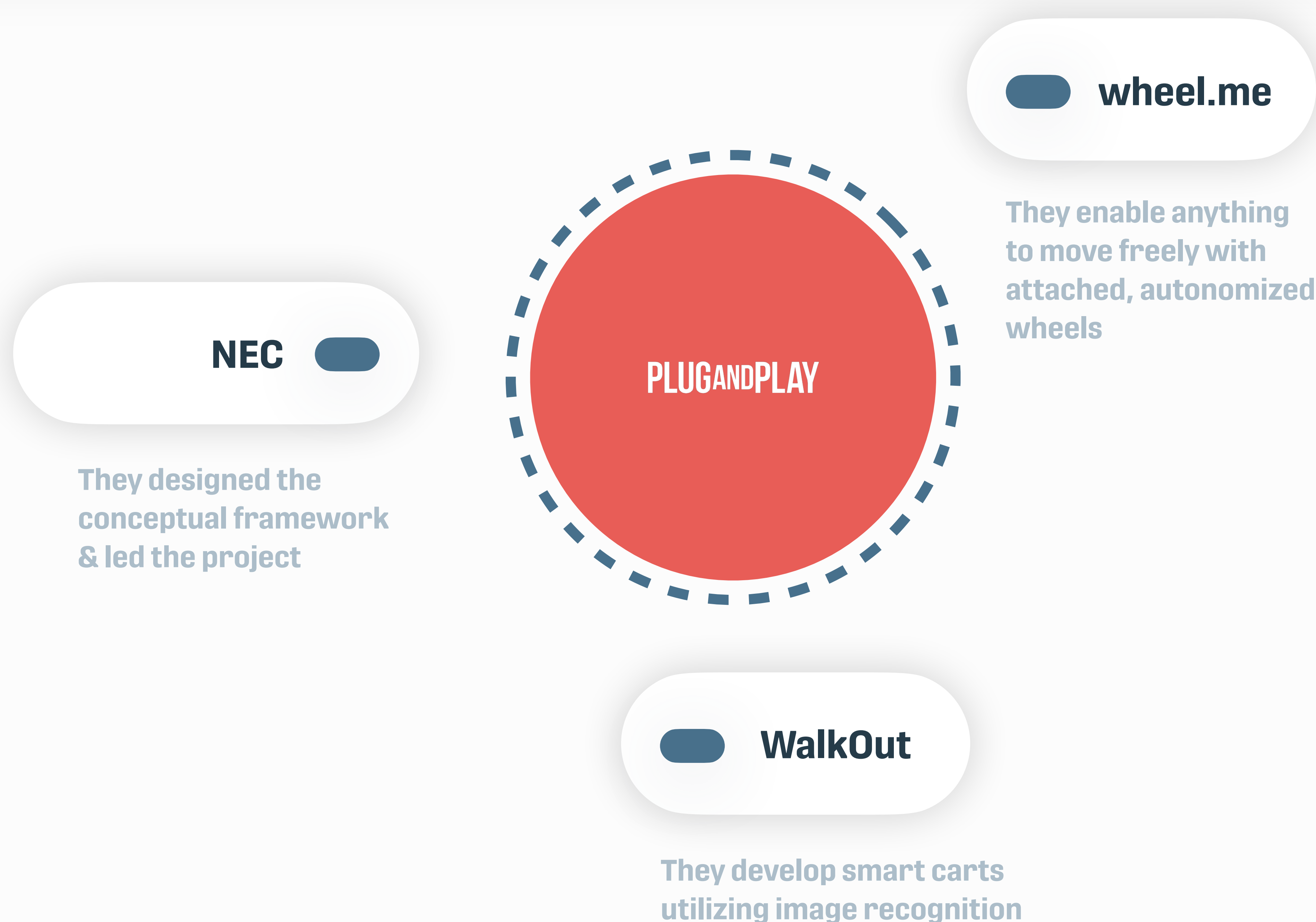
As part of Plug and Play's Brand & Retail innovation platform, NEC regularly sends requests with topics they are interested in. Then, the Plug and Play Ventures team looks for relevant startups in those fields, and arranges a direct introduction with the corporate partner.

In this case, NEC was looking for new consumer-focused solutions in the Grab & Go sector. Across several Dealfow sessions and direct introductions, NEC rated and reviewed 51 startups. Out of this process, **they chose WalkOut & wheel.me, a selection based on their individual technological strengths.**

NEC was looking for startups that met this criteria:

- Good fit with NEC's problem statement
- Technology fit with NEC's existing systems & products
- Established POC success in the retail industry
- Ability to adapt an already-existing product solution

Working with both of them simultaneously as a single, cohesive group, they developed an Autonomous Shopping Cart. Through various webinars and meetings, test marketing in Japan reached completion.





# The Timeline

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## **April 2019:**

Plug and Play introduced WalkOut & wheel.me to NEC, and they both signed an NDA.

## **September 2019:**

They defined the project, combining WalkOut & wheel.me's solutions. They applied to present the project at a large-scale exhibition.

## **November 2019:**

Completion of NDA between all three parties and preparation for Proof of Concept (POC).

## **December 2019:**

They began testing with each startup technology. Then, they tested both technologies together. They got ready to present the project at the exhibition.

## **March 2020:**

Due to COVID-19, the exhibition had to be canceled. NEC thought of an alternative, and made the project public via a "Concept Movie".

## **April 2020 - September 2020:**

Using this concept movie, test marketing in Japan was carried out.





# The Ideation Process Behind the Autonomous Shopping Cart

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## Pain points of supermarkets

- Registers do not have enough staff to man them.
- Long queues at checkout may cause consumers to choose another store, or otherwise leave without purchasing anything

## Related Hypothesis

Grab & Go-style shopping in small-stores has grown, due to clear benefits to consumers. But high overhead & logistics costs have largely kept this trend from reaching larger stores.

Also, large stores rely on shopping carts for carrying items to the register, so the shopping cart itself could become the key to a new way of doing things.

## The Final Project

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NEC decided to develop a cart that would follow you autonomously. From NEC's point of view, this idea would greatly improve the shopping experience in two ways:

It would enable hands-free shopping, making life a lot easier for a lot of people: parents with a stroller, elderly people with a cane... It also eliminates the need for staff to physically collect carts after use.



# Benefits of the Project

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## For the startups:

- This collaboration helped wheel.me expand the application of their technology.
- WalkOut performed significant enhancements to their technological capabilities.
- Both of them have now a unique case study to show to potential customers.
- The partnership with NEC has also, already, assisted both startups in further fundraising efforts.
- They've both gained access to a more global market demand.

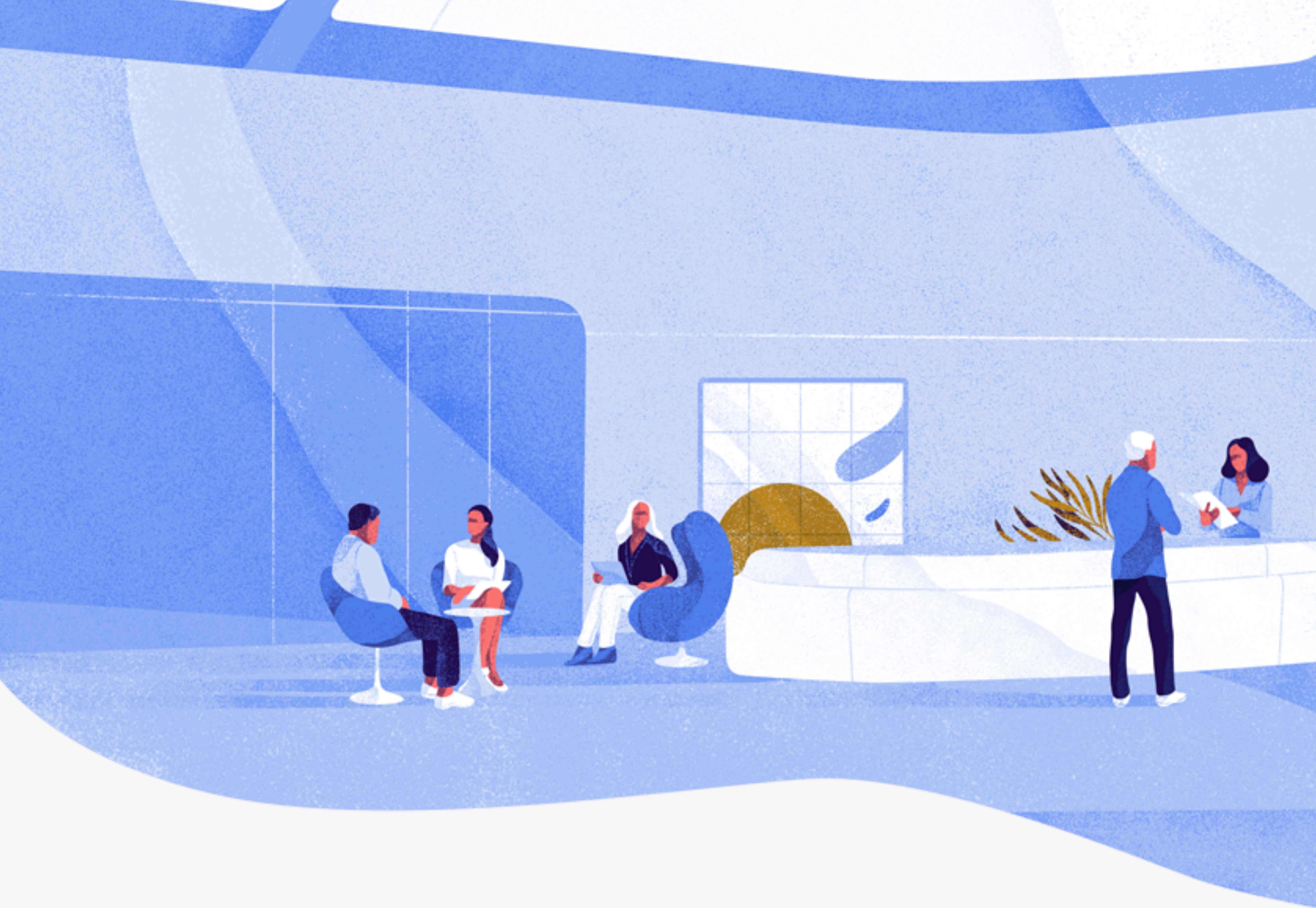
## For the corporate partner:

- This new product is a great addition to NEC's technology portfolio
- It helps define a more agile approach for new product creation, from initial ideation to roll-out & implementation.
- The process of completing test marketing of the cart enables additional collection of consumer needs and interests.
- A track record of co-creation enables NEC to promote new business development efforts, both internally and externally.

## Overcoming difficulties

- **Time-zone differences:** After finding a suitable time for all three parties, virtual meetings were held every week.
- **Initially unsuccessful tech integration tests:** The three companies gathered to conduct on-site integration tests, and they faced some struggles at the implementation stage. From their respective locations, all sides collaborated to identify the cause of the problem, and took the necessary actions to solve it.





Plug and Play is a global corporate innovation platform which helps to connect corporate partners to startups in order to help solve their greatest challenges. We also operate as a venture fund and startup ecosystem. To date, we have helped over 3,000 early-to-growth stage startups raise over \$3.5 billion. Plug and Play is consistently ranked among the most active VCs in Silicon Valley.

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*This document was created in close collaboration with  
NEC. We would like to thank the NEC Digital Integration  
Team at their Tokyo HQ for their support.*

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