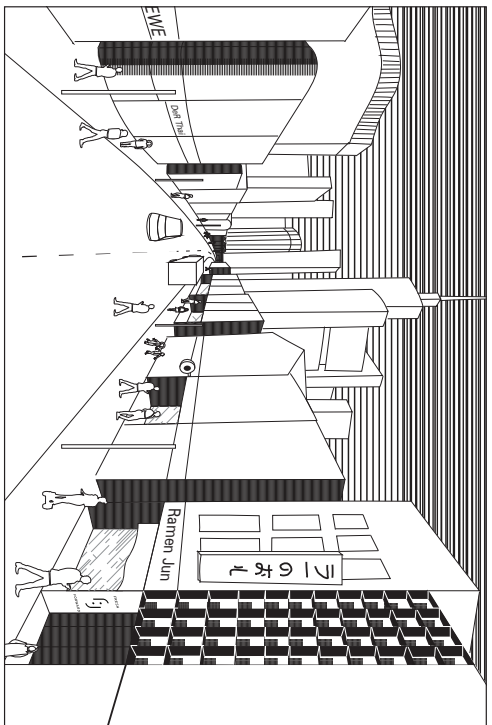
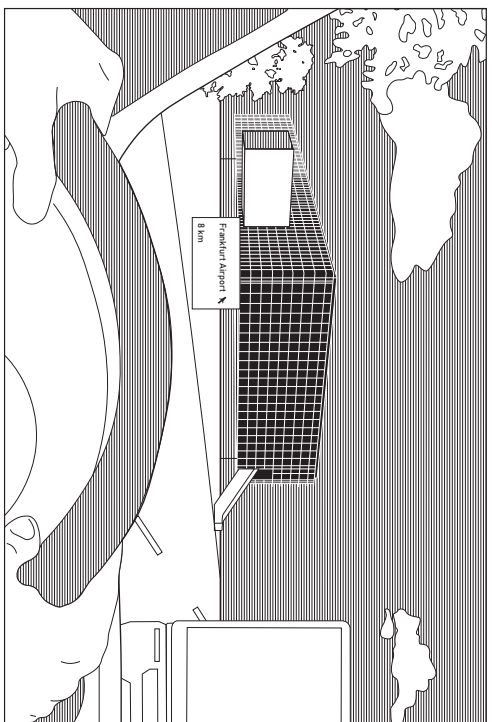


This contribution proposed a design for a new kind of restaurant that utilizes contemporary technology to achieve a fully automated process, from production space to sales floor; while, at the same time,— adopting modernist cooking techniques to provide a new dining experience to the customer.

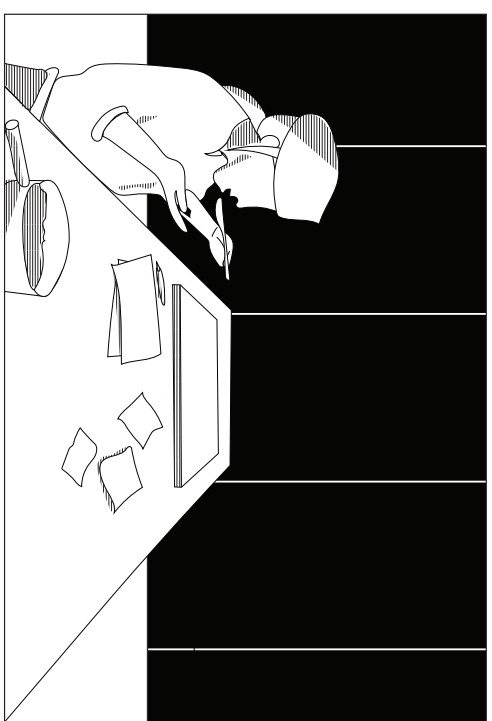
9



During chaotic lunch-hour in the Kaiserstrasse, in the central financial district of Frankfurt, Fresh Forward, an automa restaurant, aims to provide a new dining experience to the Frankfurters. Through automation technology and modernist cooking techniques, the automa can provide freshly made, high-quality cuisine that fits the busy lunch hour of Frankfurt's executives.



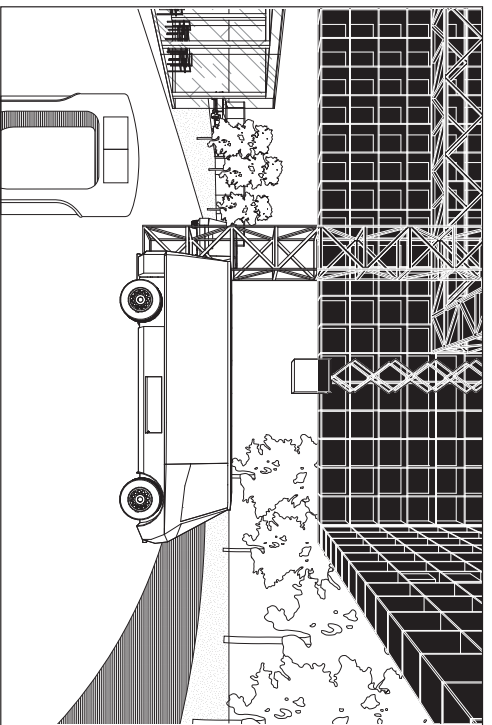
Just 3 km outside the center, Fresh Forward opens its door to invite visitors to dine in and see its production process. The complex demonstrates fully automated dining facilities from the production to the restaurant space. Ingredients will arrive at the back end of the production space, go through a series of preparation finally serve to the guest in the restaurant through an automa locker.



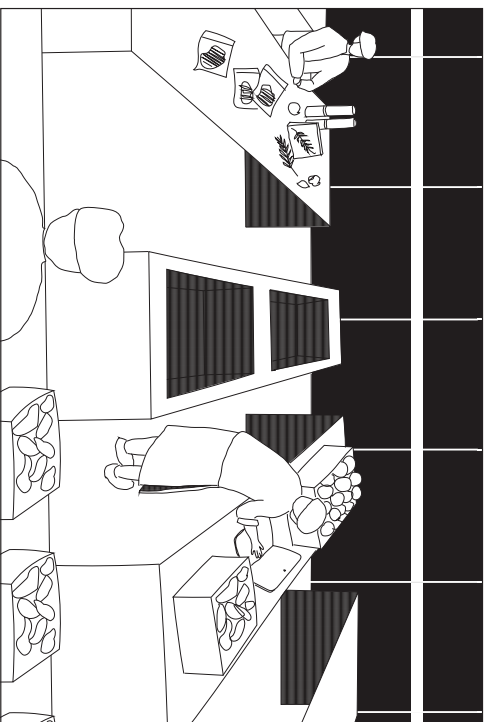
Every menu is created by culinary artists at Fresh Forward's trial kitchen facility. They employ the modernist cooking technique to find a new way and flavors to enjoy food. With the help of automation technology, the cooking process of the newly created dishes will be replicated by the automa cooking station. Therefore, chefs can focus on creating and perfecting their dishes.



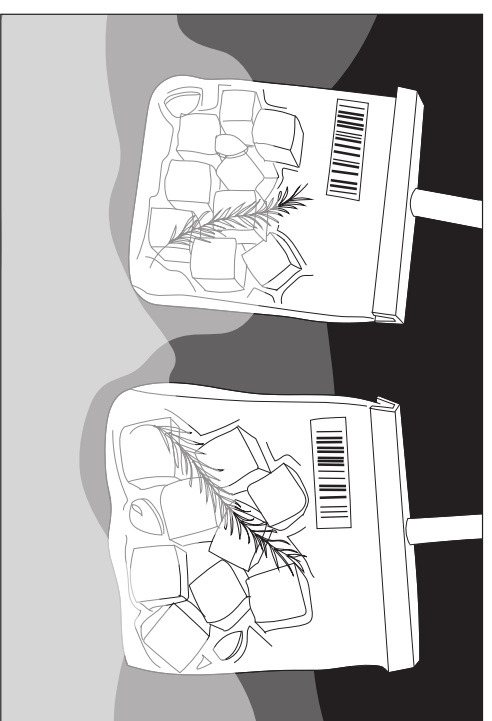
The raw ingredients will be cooked and stored in the sous vide technique until perfect. Basic ingredients will be stored in a 15x15 cm silicon vacuum-sealed bag and cooked to the perfect doneness before being stored in the freezer. This method will also provide a longer shelf-life for the ingredients.



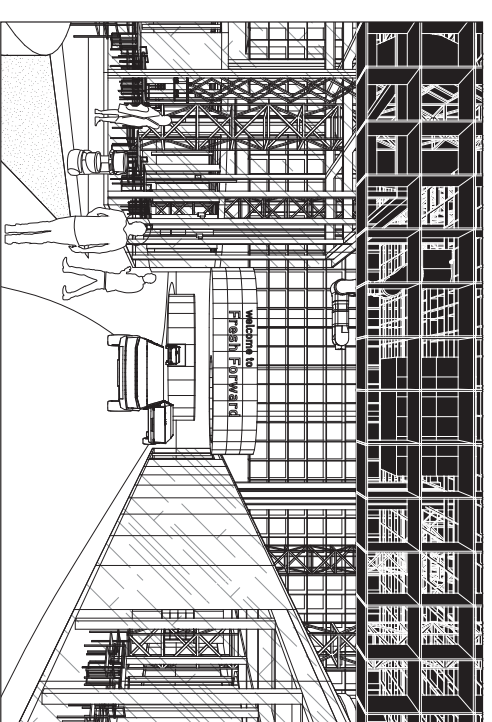
Utilizing artificial intelligence and machine learning technology, raw ingredients will automatically ordered from local suppliers in Frankfurt and delivered by a driverless e-truck. The magnetic robot claw will bring all the pallets through the e-truck roof and store it into the storage area surrounding the building facade.



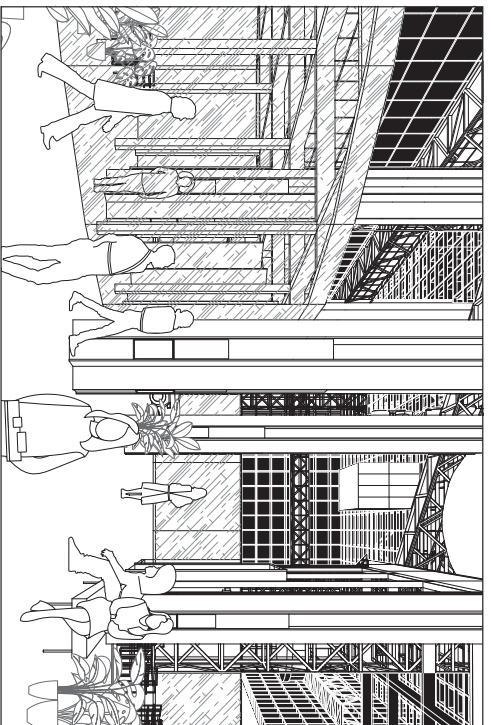
Inside the sorting and storage facility, a team of chefs will inspect the new supply of raw ingredients' quality and size. The Chef engineer will make sure every ingredient is up to Fresh Forward standard of hygiene and quality.



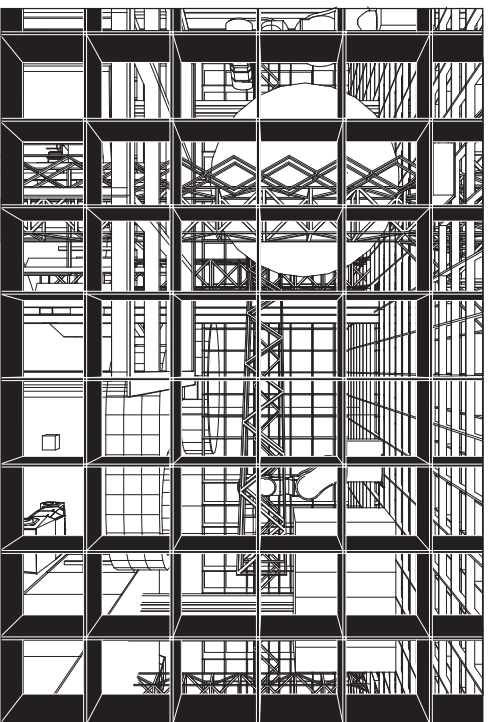
All ingredients in Fresh Forward are mainly cultured meat and plant-based ingredients to have similar size and quality. The ingredients packaged inside a vacuum-sealed bag with seasoning and garnish. These bags will be pre-cooked in sous vide technique at a specific temperature. After the boil time is up, the bag would be put into an ice bath and stored in the freezer.



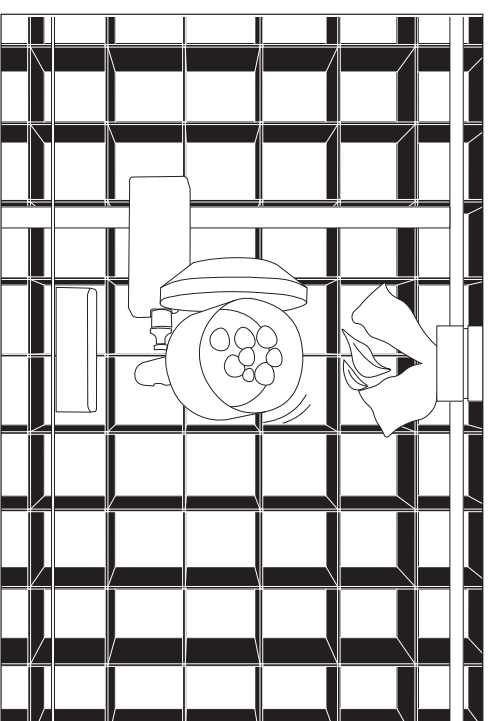
At the entrance, customers can have a glimpse of the raw ingredients being pre-processed and pre-cooked in sous vide at different boiling temperatures depends on the food types. Surrounding the cooking machine, can be seen a wall of glass cabinet filled with vacuum ingredients that is ready to be cooked and served to the diners.



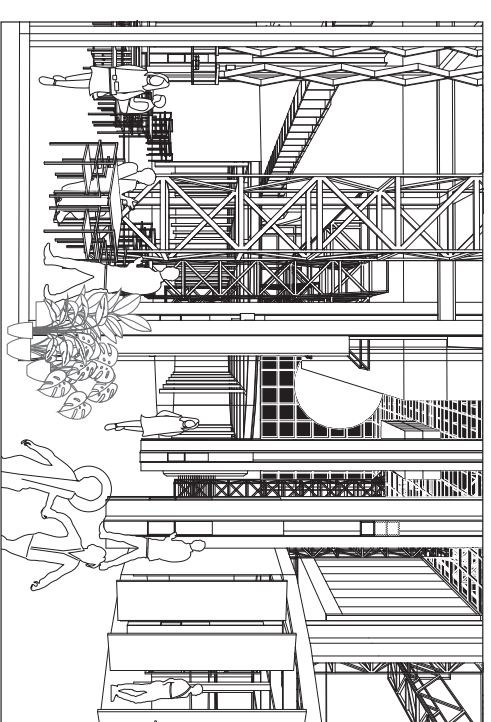
The automated kitchen area can be seen from the dining hall. The cooking tools are composed to efficiently cook several ingredients at the same time, the machines can infuse extracted broth or juice from ingredients to intensify the taste and flavors. Visitors can speculate their food being cooked and transported to the shelves above the automa locker.



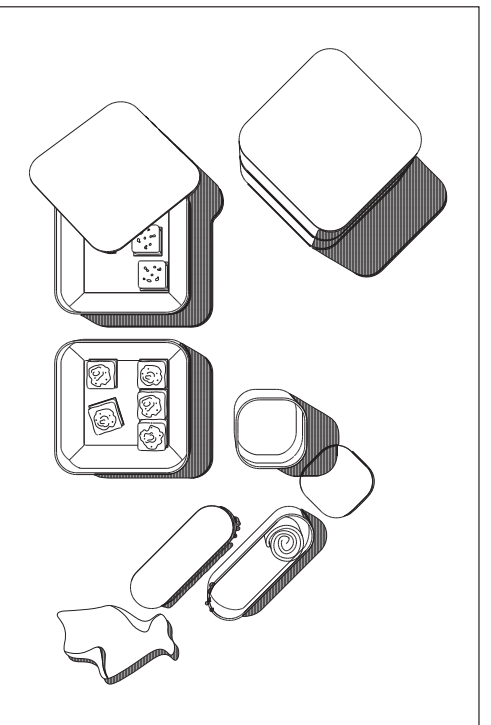
The kitchen space shows the uniformity and repetition that is required by automa machines as aesthetic elements. The kitchen will exhibit the process of ingredients flowing from one part to another in rhythm, creating an eye-pleasing motion, which attracts the customer to observe this process.



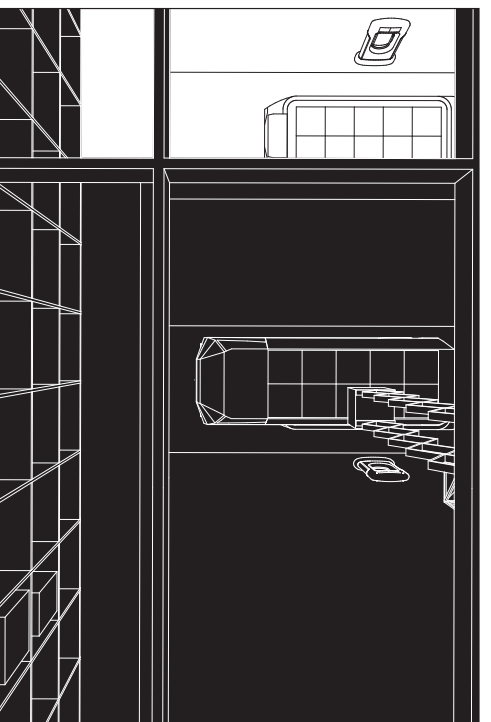
When orders are being made, inside the cooking machine, the sous-vide vacuum bag will be ripped, and food ingredients will be cooked with seasonings.



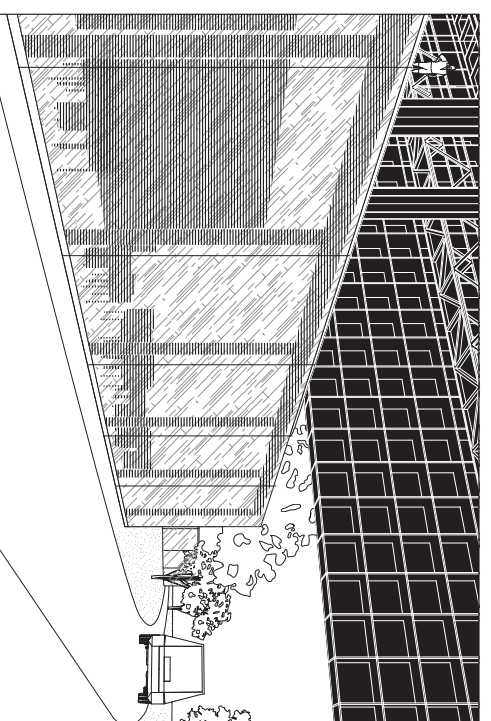
Meals will be delivered through pick-up points which are scattered in the Fresh Forward dining hall. Vertical relationship between automa kitchen and dining space gives flexibility for spatial organisation of the sales floor that enhance the visitor dining experience.



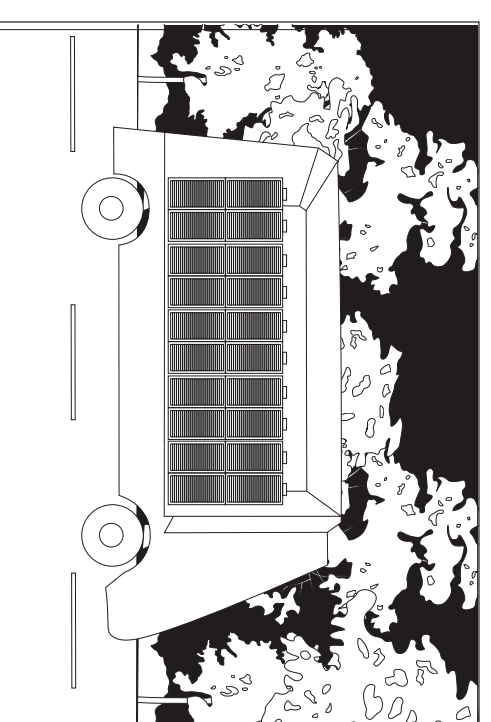
Food will be served in a sleek design food tray. Visitors can enjoy their food in the indoor or outdoor dining hall around the restaurant complex. The packaging design provides a simple and convenient design for diners to easily consume their meal without any utensils.



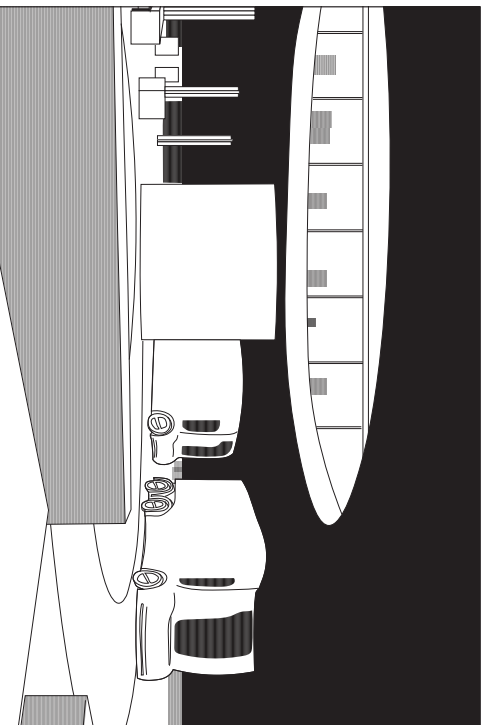
To reduce food waste, pre-cooked ingredients that have a short expiration date left will be cooked, froze through the flash-freezing process, and packed into ready-to-heat frozen foods. Frozen foods and pre-cook ingredients are distributed to local supermarkets, such as REWE in Germany or Albert in the Netherlands, to strategically expand Fresh Forward's service territory.



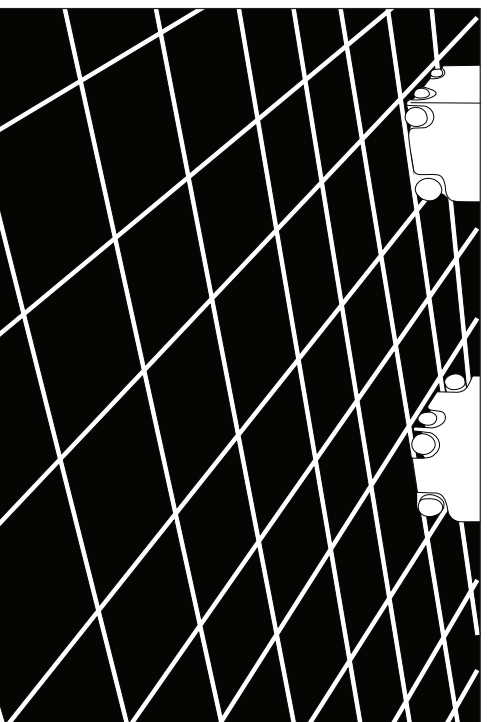
Ready-to-heat frozen foods and pre-cooked vacuum bags will be sold in the frozen shelves inside the Fresh Forward complex. The shelves will be the prototype of how Fresh Forward's products can fit inside a supermarket.



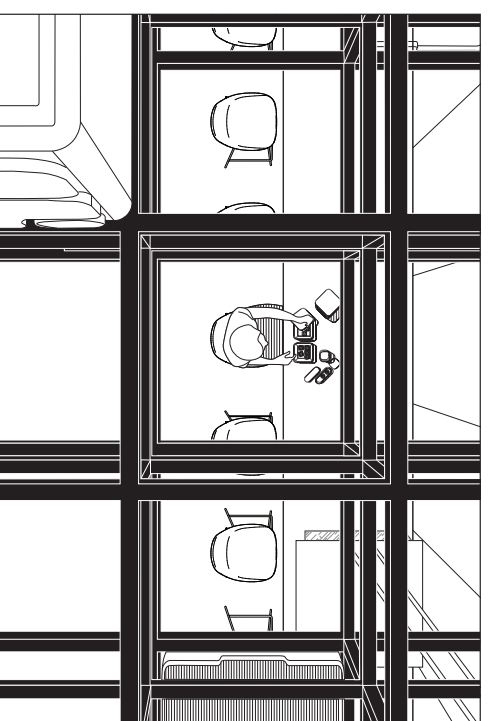
Fresh Forward goods are easily loaded and transported to partners stored due to their modularity and ready-to-attach system. One pallet of 80x80x180 cm can contain 360 frozen food packages or 1440 vacuum-sealed ingredients. All the packaging is ready to mount to the automa locker to re-supply food ingredients and frozen foods in partner stores.



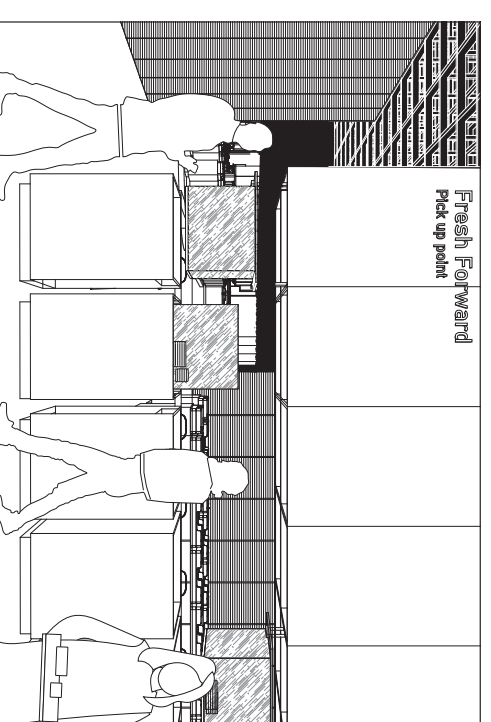
Eventually, Fresh Forward's pre-cooked ingredients and frozen foods will arrive at the Albert in Martinus Nijhofflaan. Packaging from Fresh Forward fits with the dimension of crates inside of the ocado grid system of Albert, therefore it is optimizing the loading process and storage space.



All the frozen food packages and pre-cooked vacuum bags will be stored on cold shelves inside the ocado grid storage system.



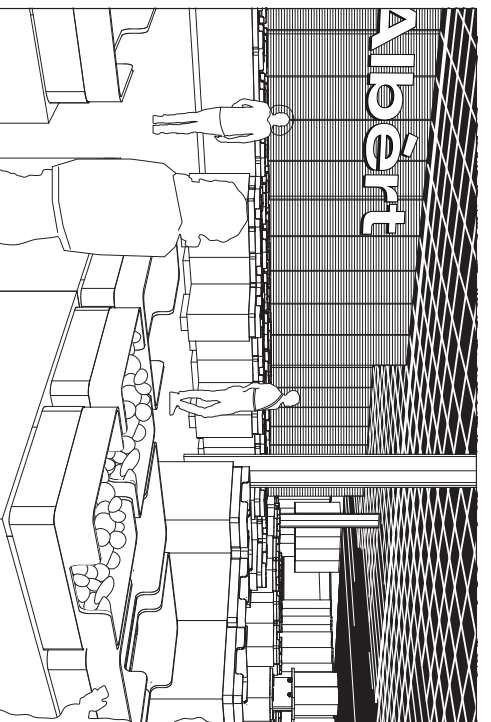
When the products arrive at the Albert, all Fresh Forward's packages can be directly mounted into the mini automa kitchen inside Albert. When the food is cooked and ready to serve, the Ocado bot will serve the food directly to the consumer table.



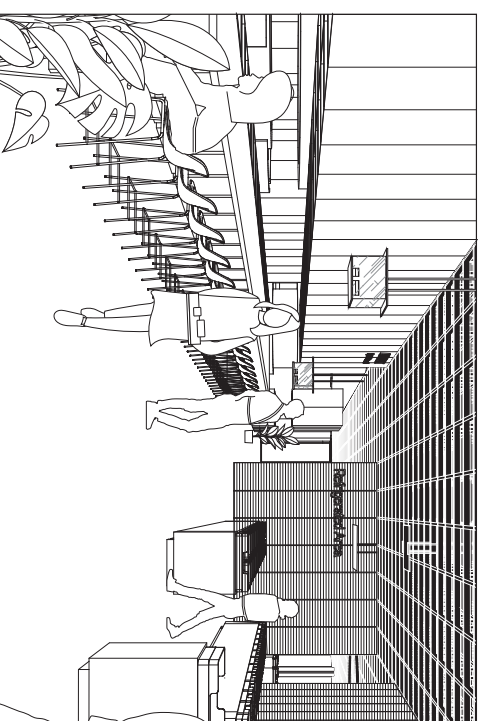
Inside the automa, the process of ingredients and frozen foods loaded into the lockers is visible to the visitor through the ocado grid system. Cooking stations display the abilities of the machine to imitate master-chefs to cooks and preparing the pre-cook ingredients into mouth-watering artisanal cuisine.



From the Albert online application, customers in the Netherland can access Fresh Forward's ordering apps to place and pick up their orders. They have the option to pick up at the Albert store or get their food delivered via Albert's instant delivery service. The customer will receive a QR-code to pick up their orders from the automa pick up point.



The customer of Albert can order their food while do their grocery shopping. Fresh Forward is presented in the Albert store to complement the visitor experience in the supermarket. Visitors can enjoy affordable, high-quality artisanal cuisine made by celebrated chefs in their local supermarket.

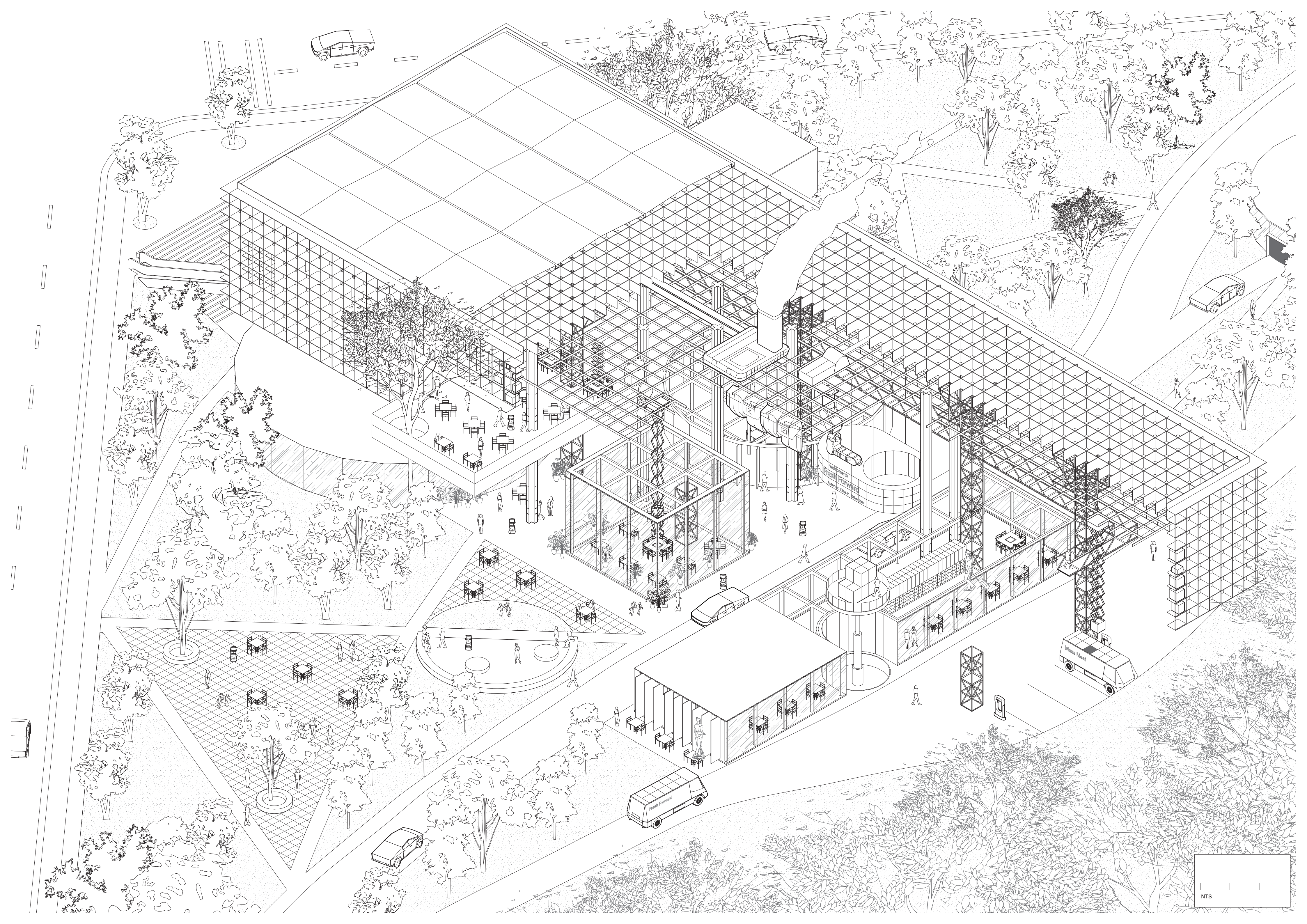


There are three options of Fresh Forward's goods available in Albert Martinus Nijhofflaan store, hot meals, frozen foods, and vacuum-sealed ingredients. Customers can directly take out goods from the refrigerated area, while they need to wait 3-5 minutes for hot meals to be prepared.

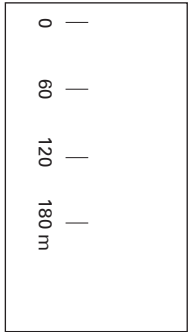
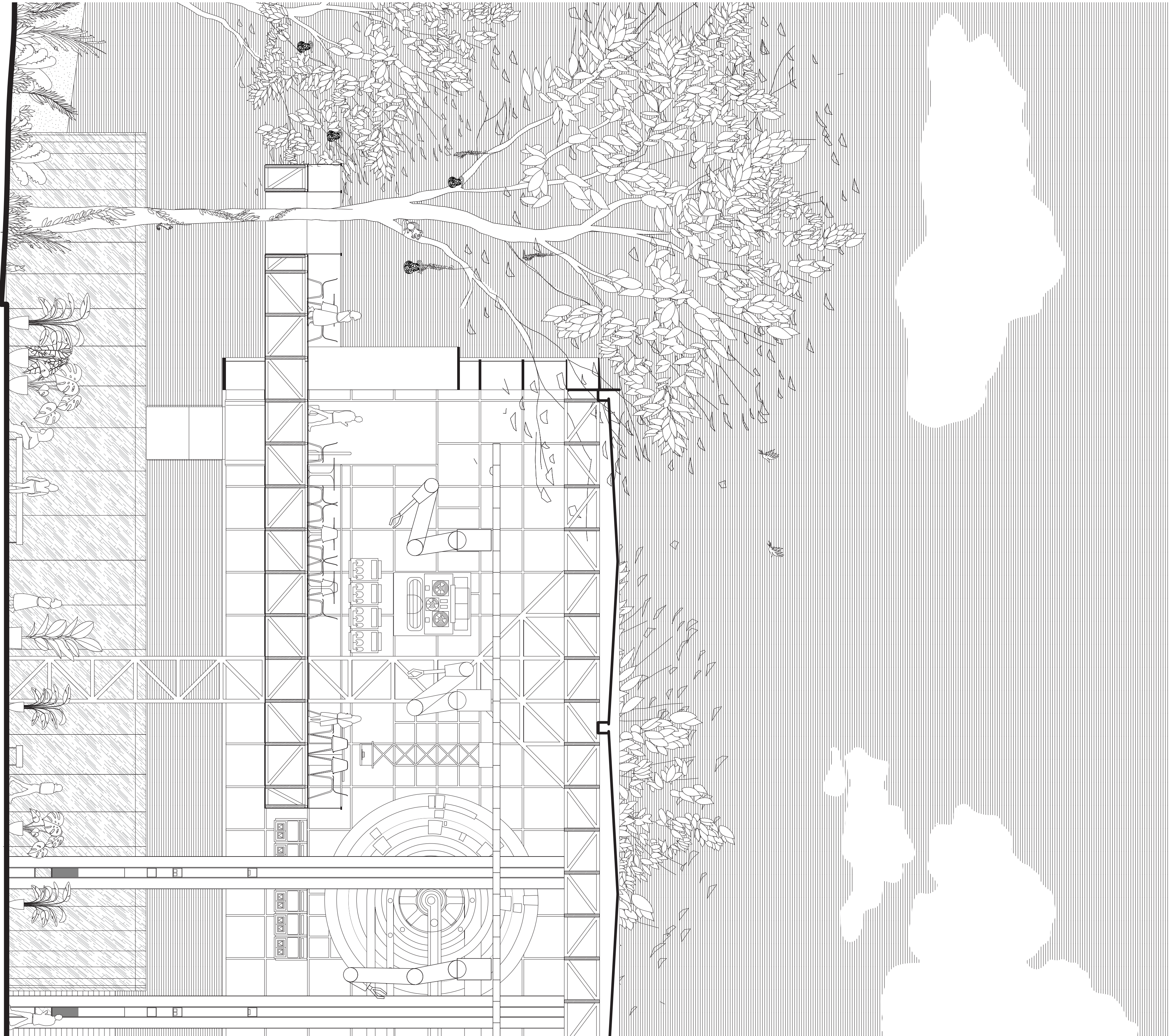


Finally, the customers can enjoy their meal in their preferred environment settings around Albert civic space. Enjoying Frankfurt high quality cuisine while enjoying the beauty of permaculture garden is now available in Albert.

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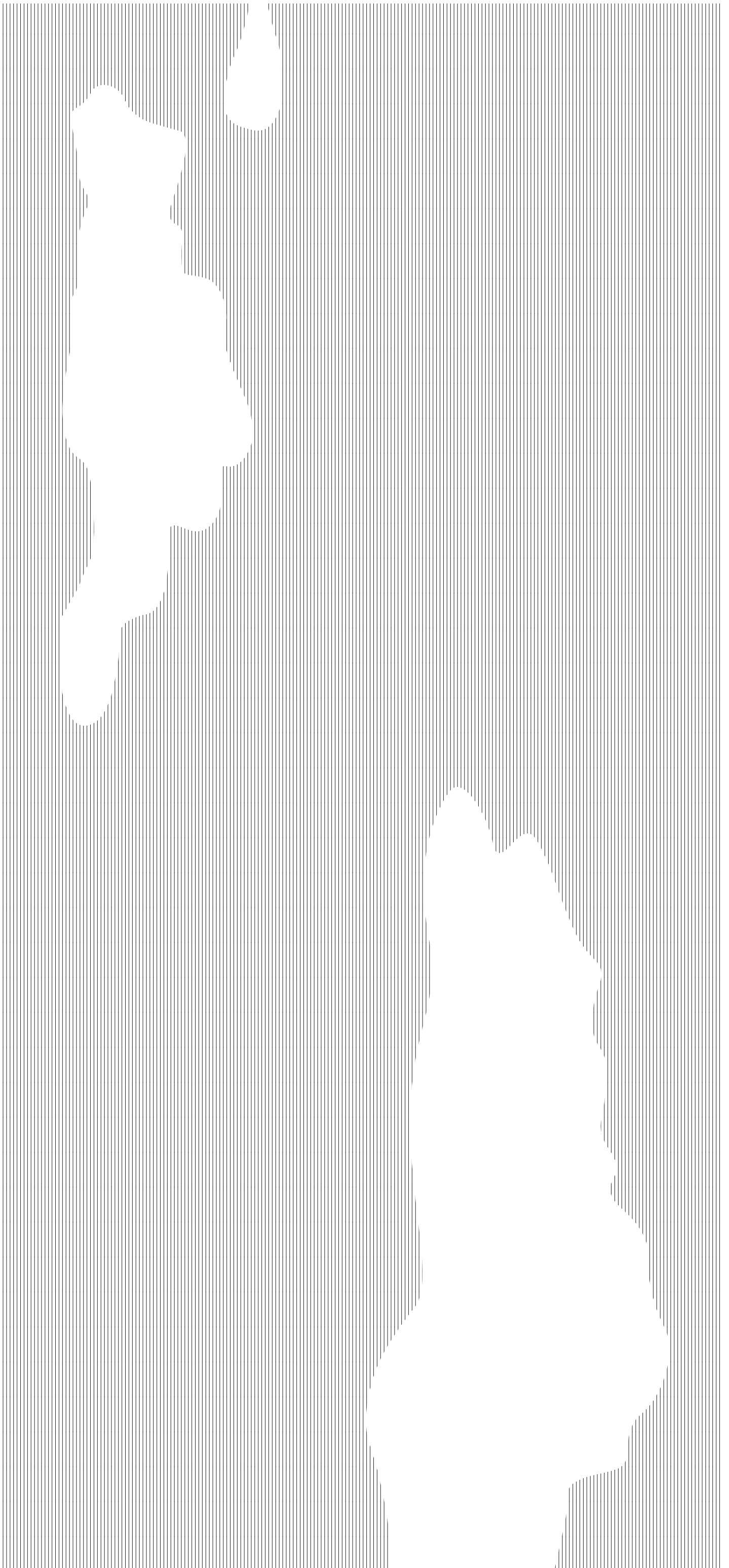
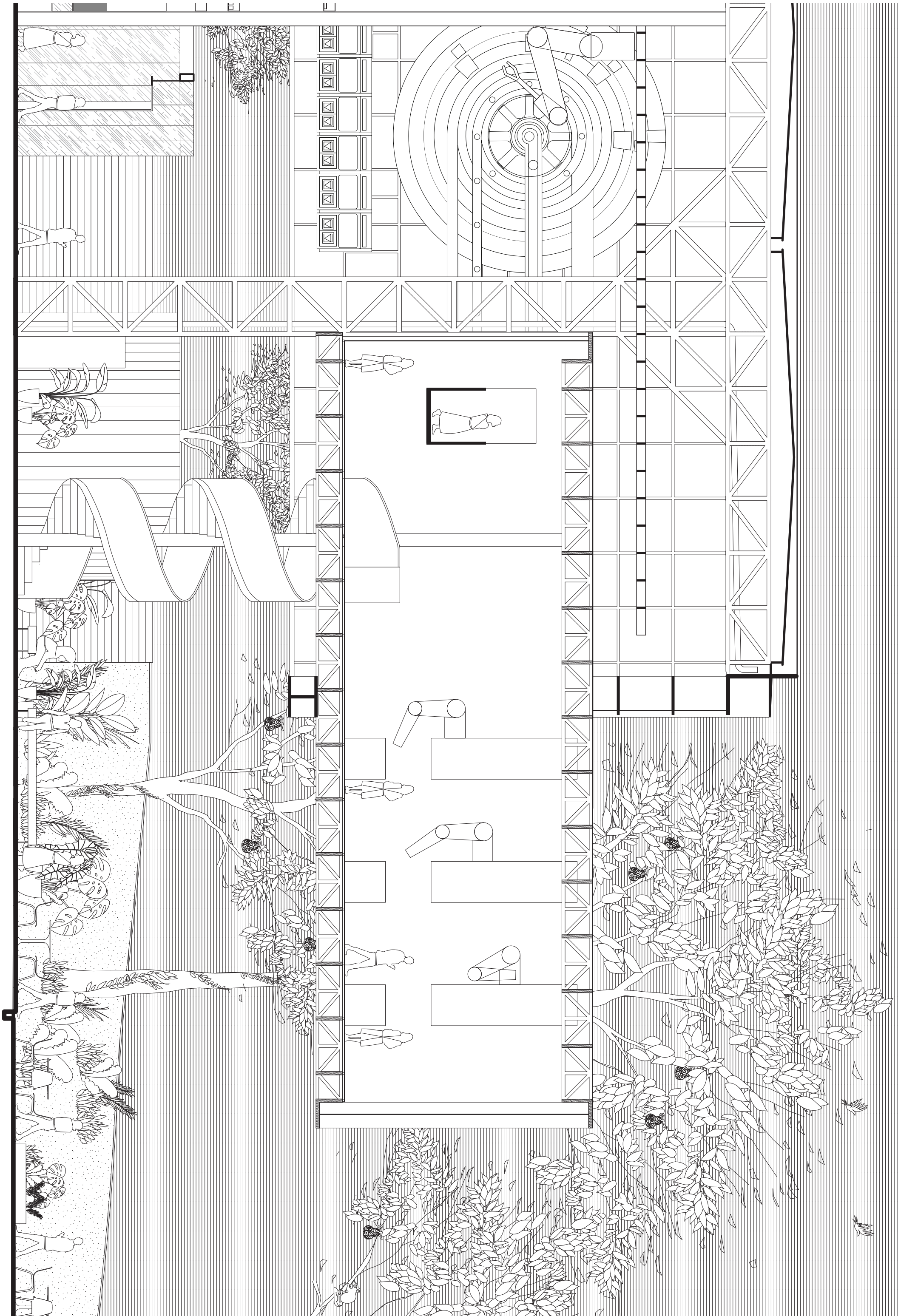


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This contribution provides an aesthetic experience—from the uniformity and repetition provided from the automated machine to the contrasting organic beauty of nature—where the customers can enjoy their meal in their preferred environment settings.

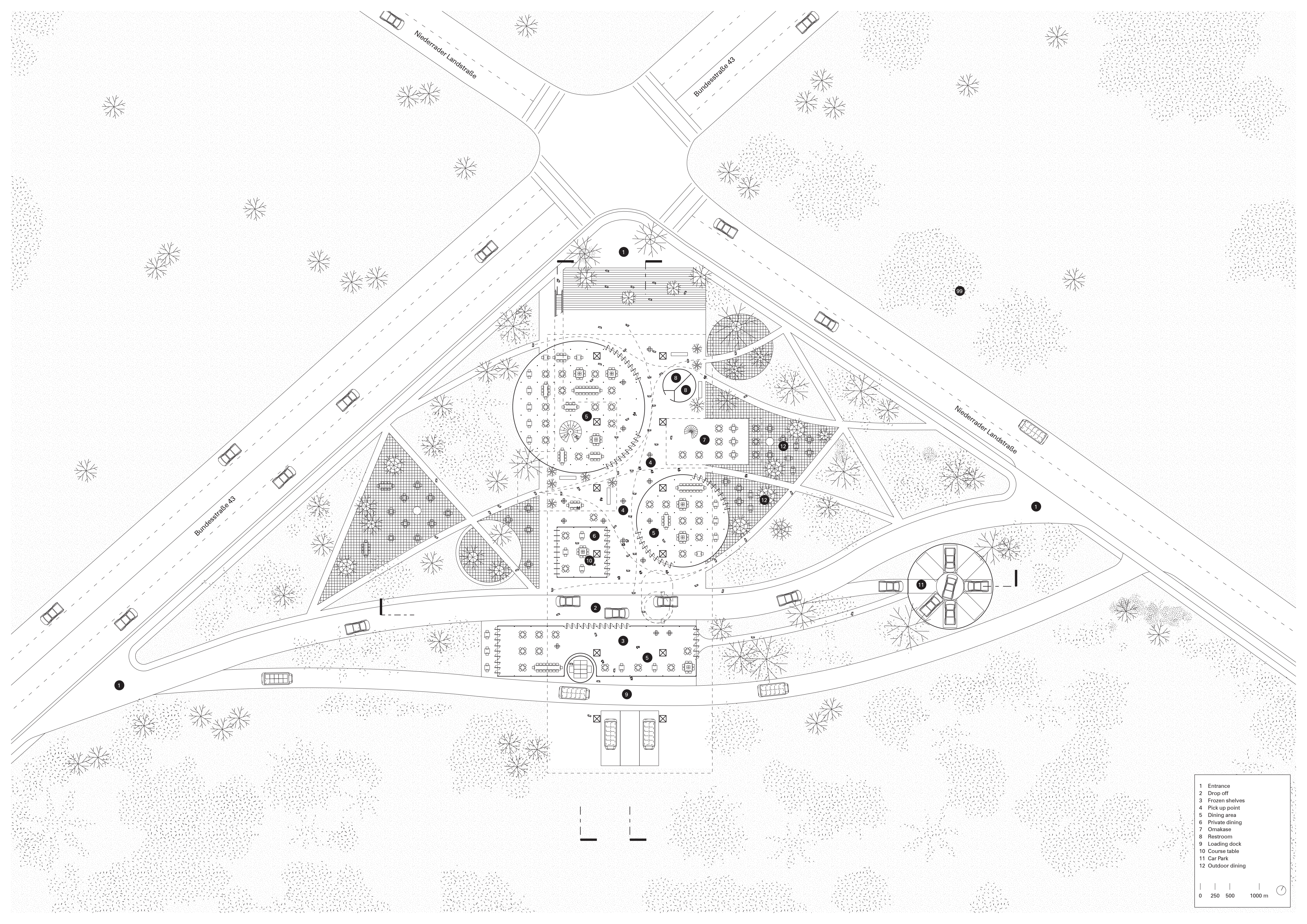
3/13



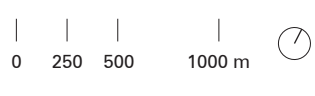
0 | 60 | 120 | 180 m

Inside the trial kitchen, culinary artists can focus on the innovative task of creating perfect dishes; while the automated kitchen works relentlessly to prepare and cook food for the diners.

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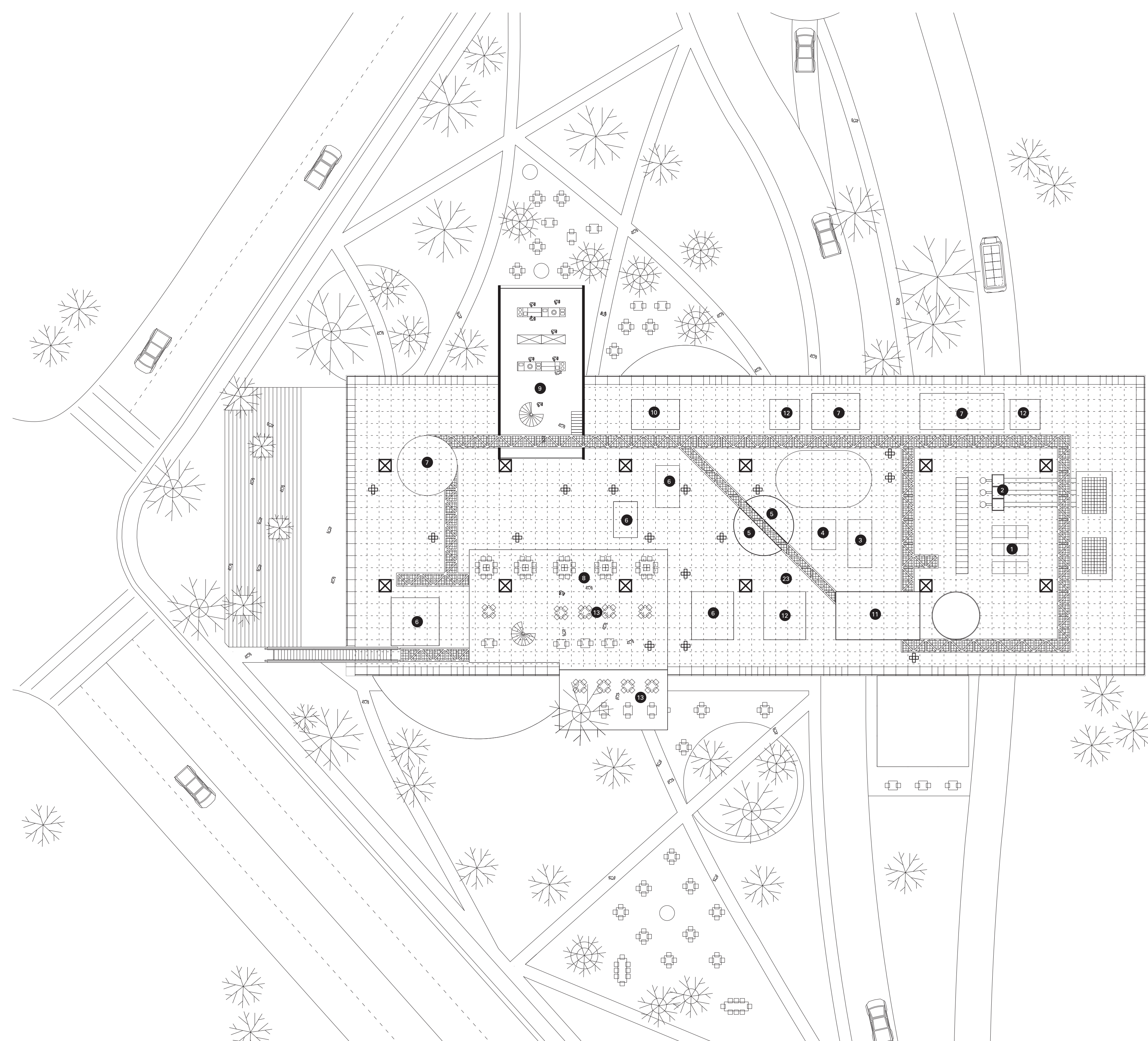


- 1 Entrance
- 2 Drop off
- 3 Frozen shelves
- 4 Pick up point
- 5 Dining area
- 6 Private dining
- 7 Omakase
- 8 Restroom
- 9 Loading dock
- 10 Course table
- 11 Car Park
- 12 Outdoor dining

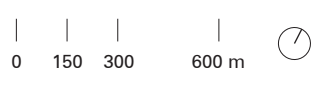


Situated just outside Frankfurt's city center, this contribution reconstructs the conventional restaurant layout, placing the automated kitchen in the upper level to give freedom in spatial organization of the ground floor.

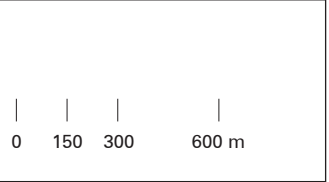
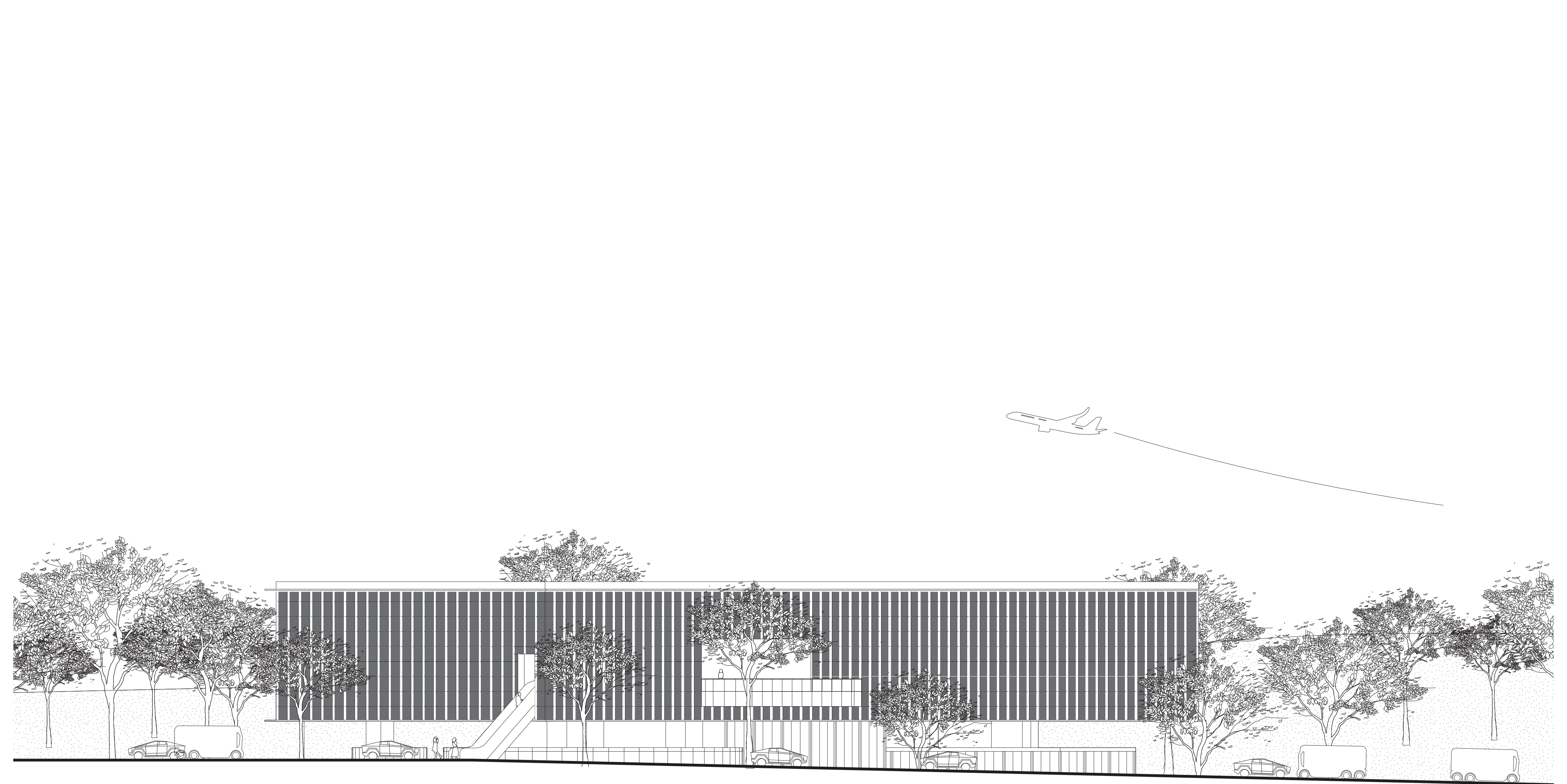
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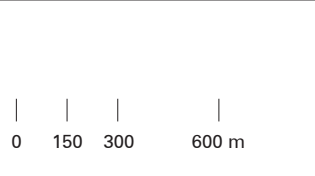
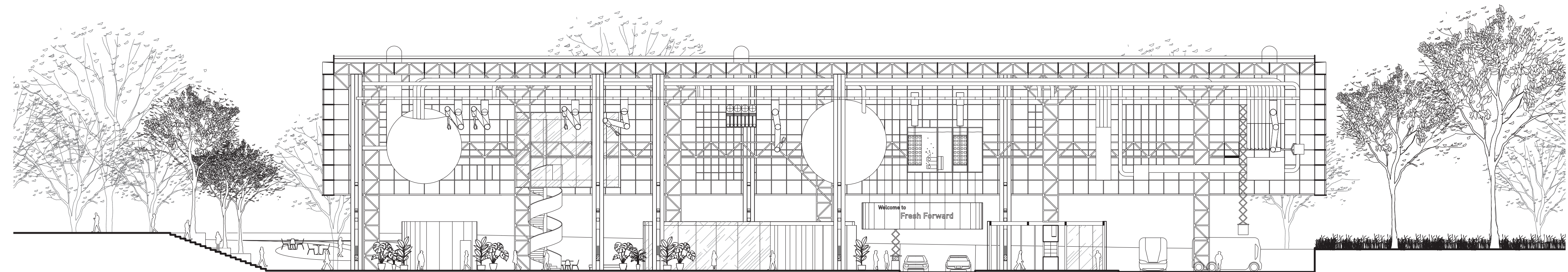
- 1 Preparation area
- 2 Vacuum chamber
- 3 Hot water bath
- 4 Ice bath
- 5 Homogenizer & flavor extraction
- 6 Cooking station
- 7 Serving station
- 8 Chef's table
- 9 Trial kitchen
- 10 Staff area
- 11 Quality control
- 12 Container station
- 13 Dining area



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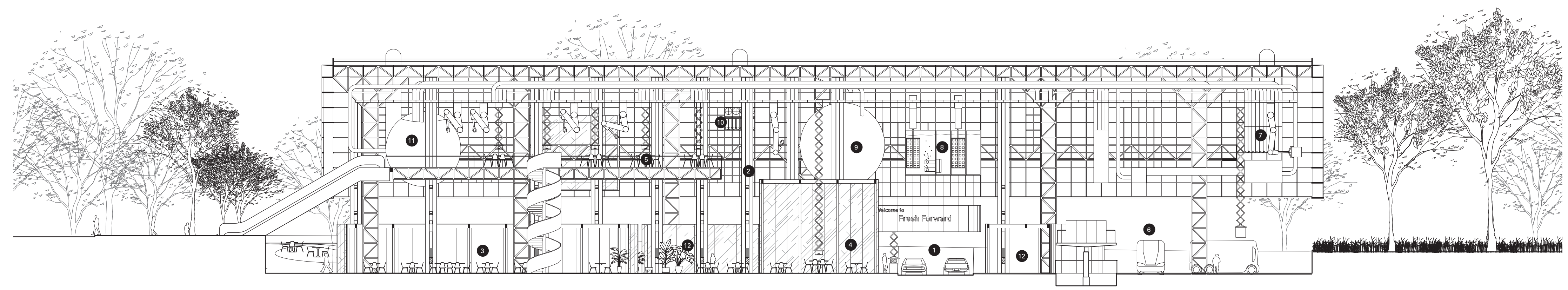


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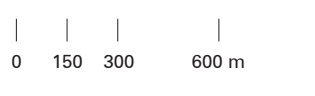


The section depicts the vertical relationship between the automated kitchen space and the dining space. It accentuates how diners can choose how and where they can enjoy their food.

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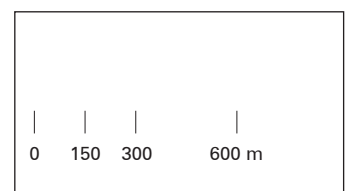
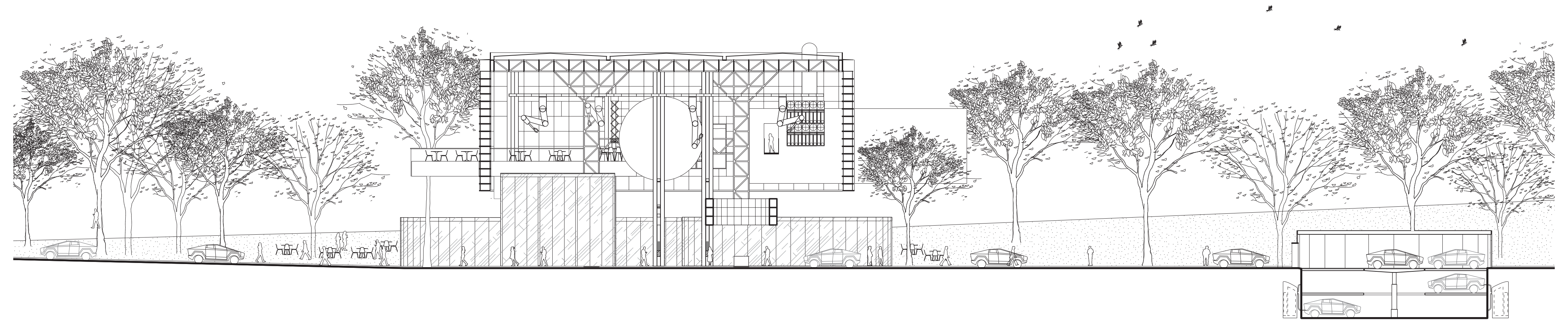
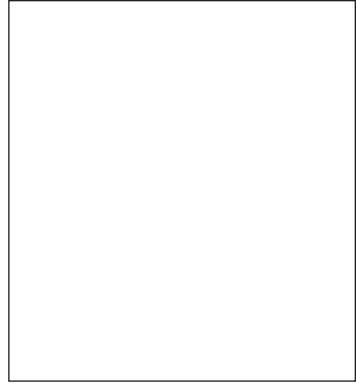


- 1 Drop off
- 2 Automat pickup point
- 3 Dining area
- 4 Private dining
- 5 Chef's table
- 6 Loading dock
- 7 Preparation area
- 8 Sous vide station
- 9 Homogenizer & extraction
- 10 Cooking station
- 11 Serving station
- 12 Frozen kiosk



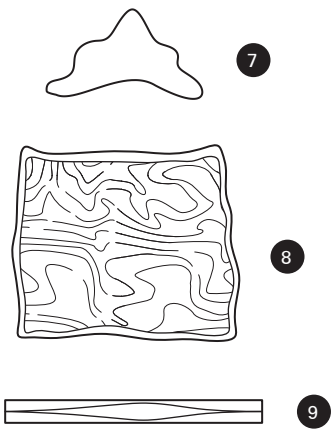
Diners can experience their meals being automatically prepared, processed, and cooked. The design of the building's section allows for the visualization of the automated kitchen's linear process, along with how food is being delivered through automat locker in the restaurant space.

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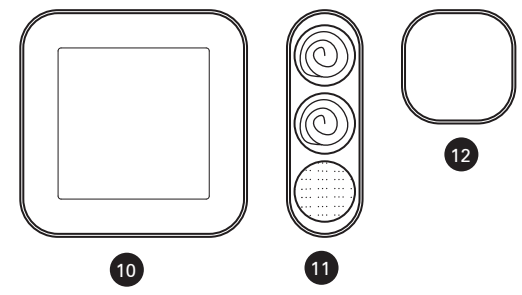


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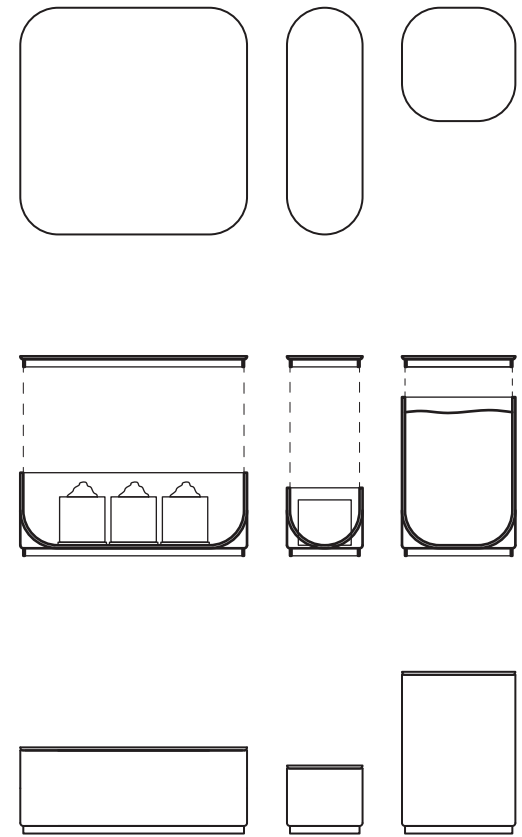
The Food



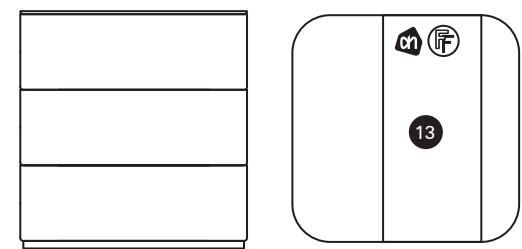
The Serving



The Packaging



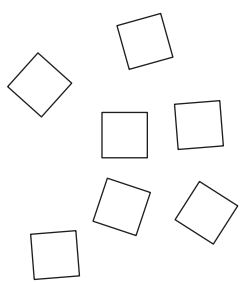
The Frozen Package



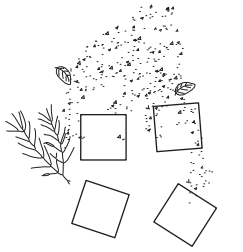
The Ingredients



Cultured meat / Plant-based



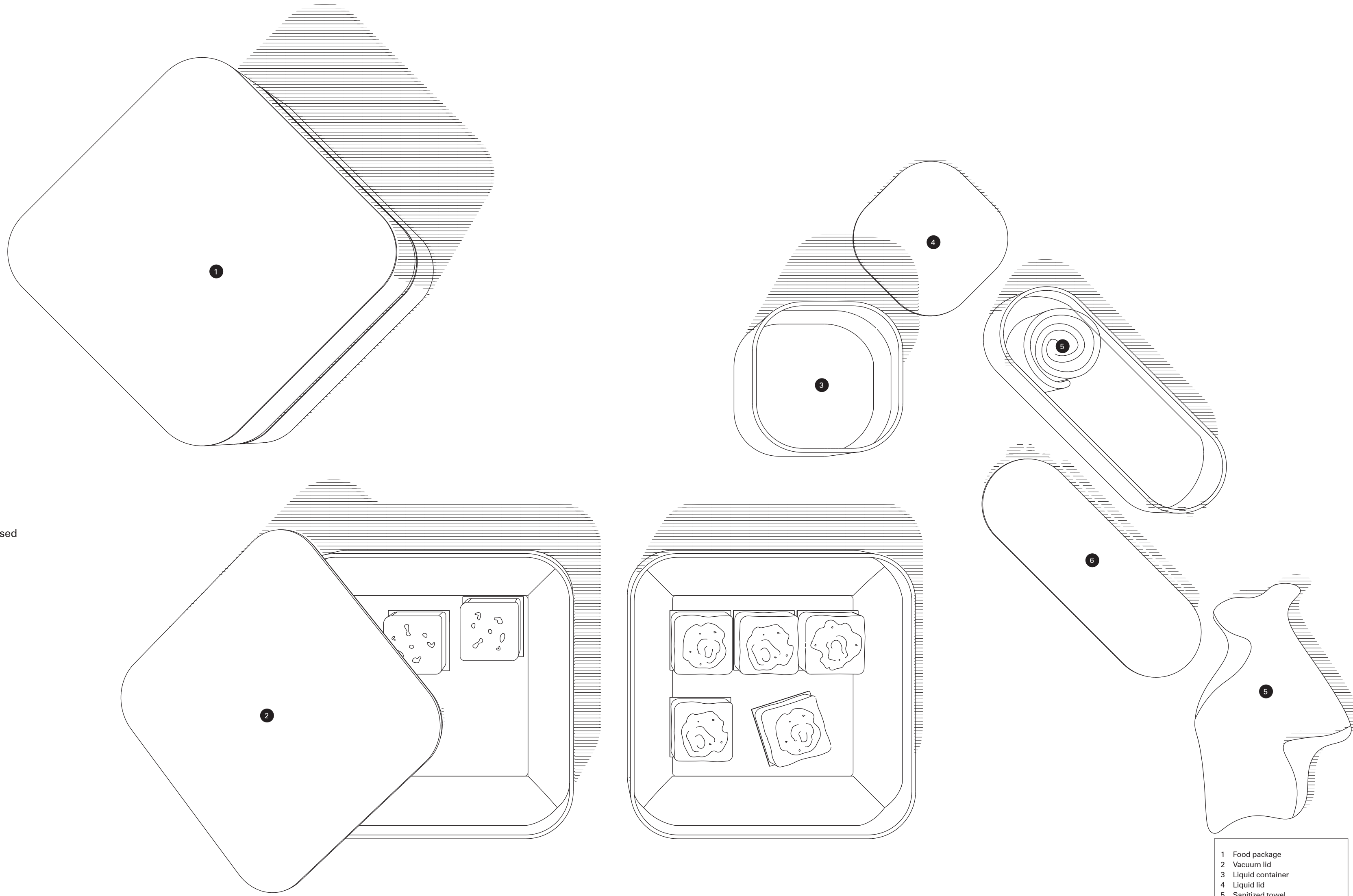
Cut



Seasoning



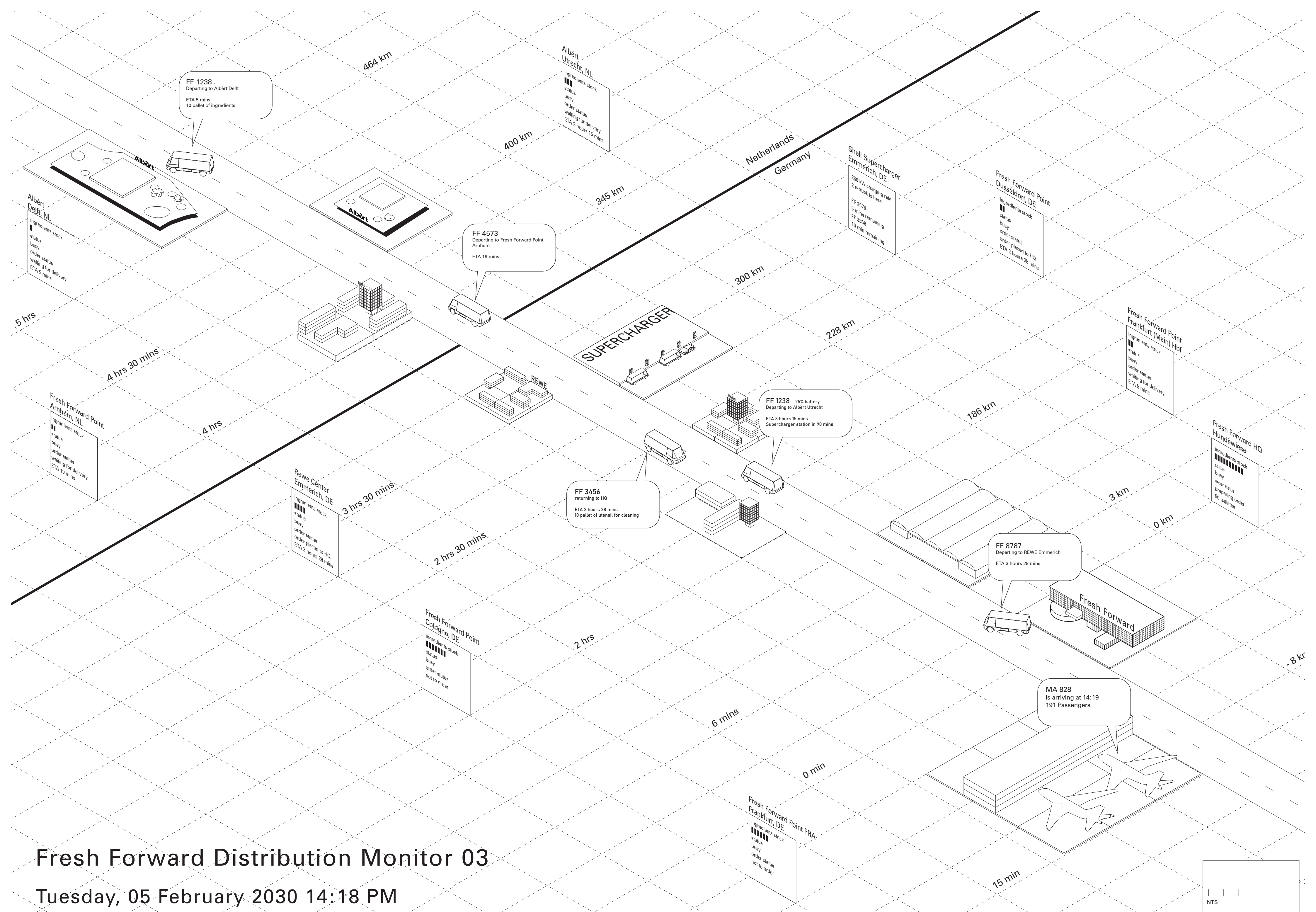
Vacuum pack



- 1 Food package
- 2 Vacuum lid
- 3 Liquid container
- 4 Liquid lid
- 5 Sanitized towel
- 6 Towel lid
- 7 Culinary foam
- 8 Solid dishes
- 9 Infuse crystal plate
- 10 Serving plate
- 11 Sanitized Towel
- 12 Serving Glass
- 13 Brand label

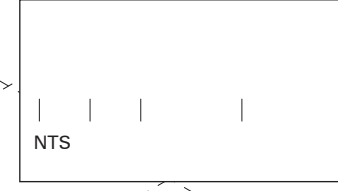
This contribution provides a new dining experience for customers all over Blue Banana to enjoy artisanal freshly-made cuisine. Moreover, the packaging design provides a simple and convenient design for diners to easily consume their meal without any utensils

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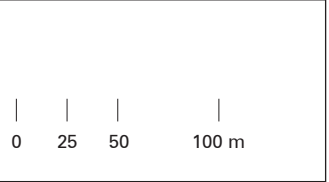
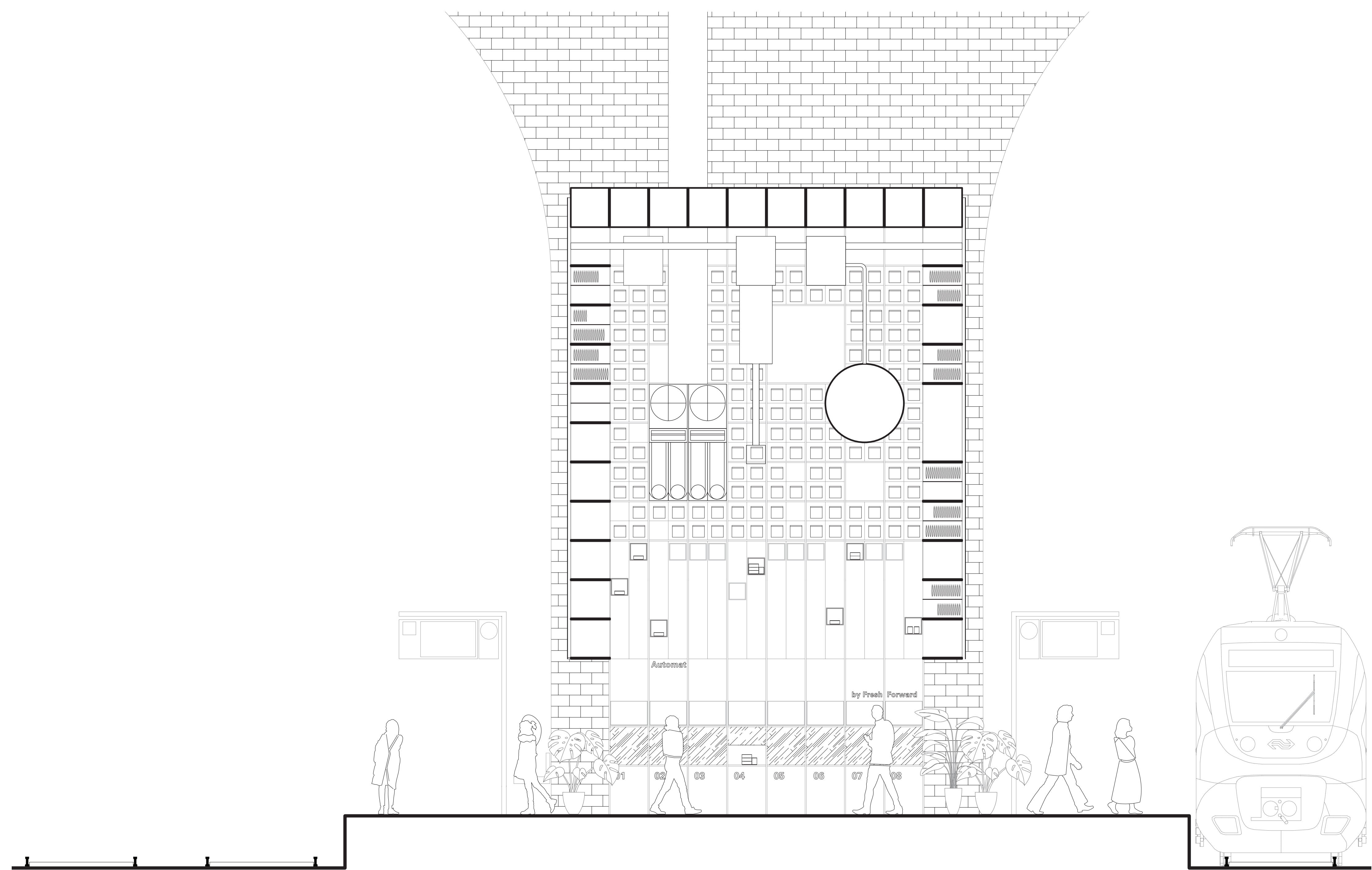
Fresh Forward Distribution Monitor 03

Tuesday, 05 February 2030 14:18 PM



This contribution serves a larger network in the Blue Banana territory, utilizing artificial intelligence and machine learning technology in the food distribution network. The diagrammatic map shows the captured moment of the Fresh Forward distribution line from Frankfurt Airport to Albèrt in Delft.

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By adopting the automation technology, the contribution ensure convenient access to freshly made food in a place that usually does not have the luxury of space and labor, such as a busy train station, to enjoy freshly cooked meals made by artisanal chefs. It proposes a new way of healthy consumption especially for commuters, workers, and businessmen.

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