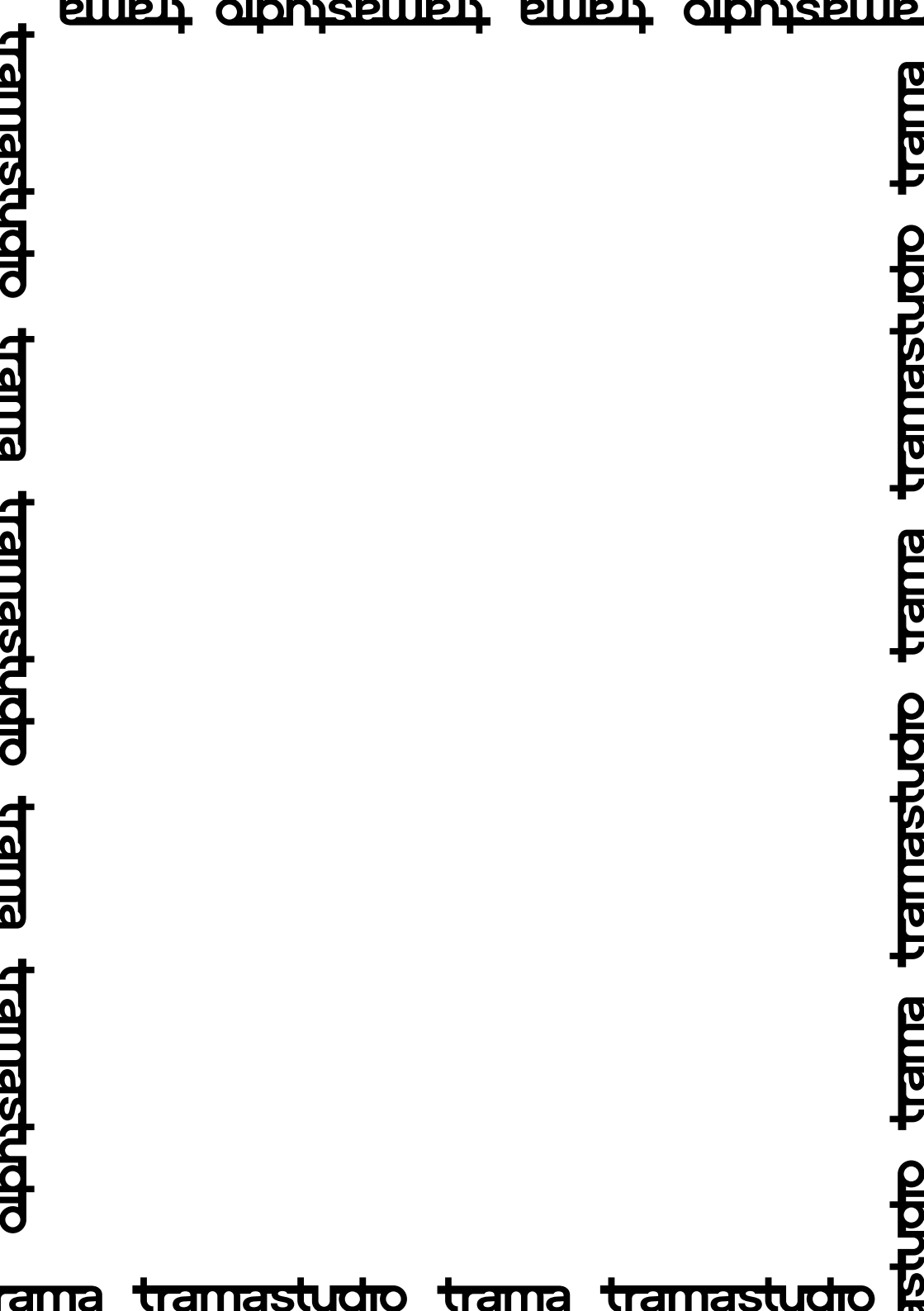
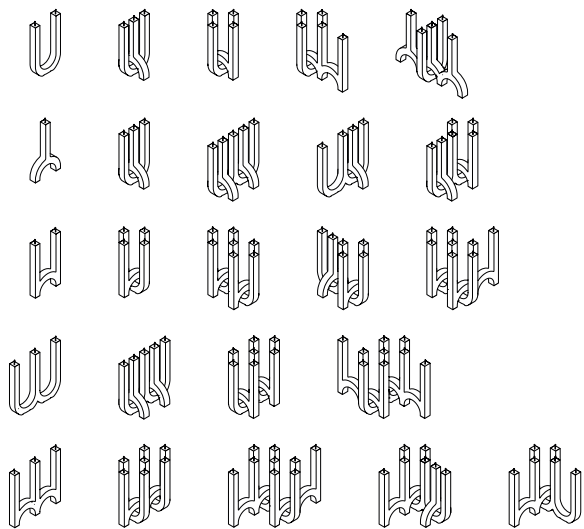




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Kandela

Line of modular candles

Trama/Tramastudio

Design and realization: Francesca Pucciarini & Manuela Pucciarini

Year: 2020

Materials: beeswax

Techniques: in-mould production, 3d printing

The project

Kandela is Trama's first branded product line consisting in a series of six modular beeswax candles. Kandela comes from a study on the original typology of the common candle and works on the symbolism given by the number of burning flames. The object questions the classic relationship between candle and candle holder through a new form and encourages a different relationship with the person by introducing the concept of modularity of the elements. The shapes of

the Kandela line are generated using two repeated geometric elements: the curve (in two positions) and the vertical line. Playing with the number of flames and with the composition of the various models it is possible to create infinite visually different structures. The sculptural aspect is given by the reference, through shape and texture, to the architectural elements of the arch and the column, implicit and general reference to the major places of occidental collective ceremonies.

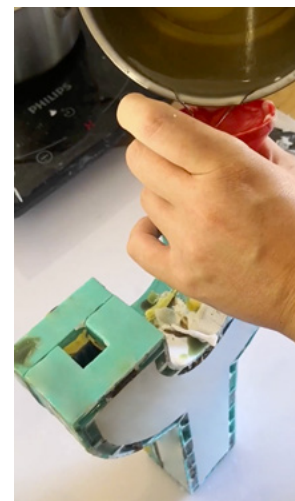




The Production

The process is entirely handmade. An original molding technique was developed for the production of the Kandela collection, which combines a silicon inner part to a 3d printed external resin shell to which are added magnetic elements to ensu-

re the closure of the mould parts. While the silicone part, after a few cycles, may get deformed and require replacement, the shell has a much longer life and can always be reused.



Sustainable raw materials

The wax comes from certified and sustainable sources. The yellow wax is not treated while white wax is bleached with physical processes (without chemicals). Beeswax is a valid alternative to petroleum derivatives and to the intensive cultivation of soy

and colza. Using beeswax also allows us to encourage the work of beekeepers who do their part to protect bees from extinction.



Above and on the next page, Kandela's packaging made from recycled paper and impact-resistant cardboard and sealed with solvent-free glues.





Elica

set of three candles

Tramastudio

Client: Mud is Mood ceramics

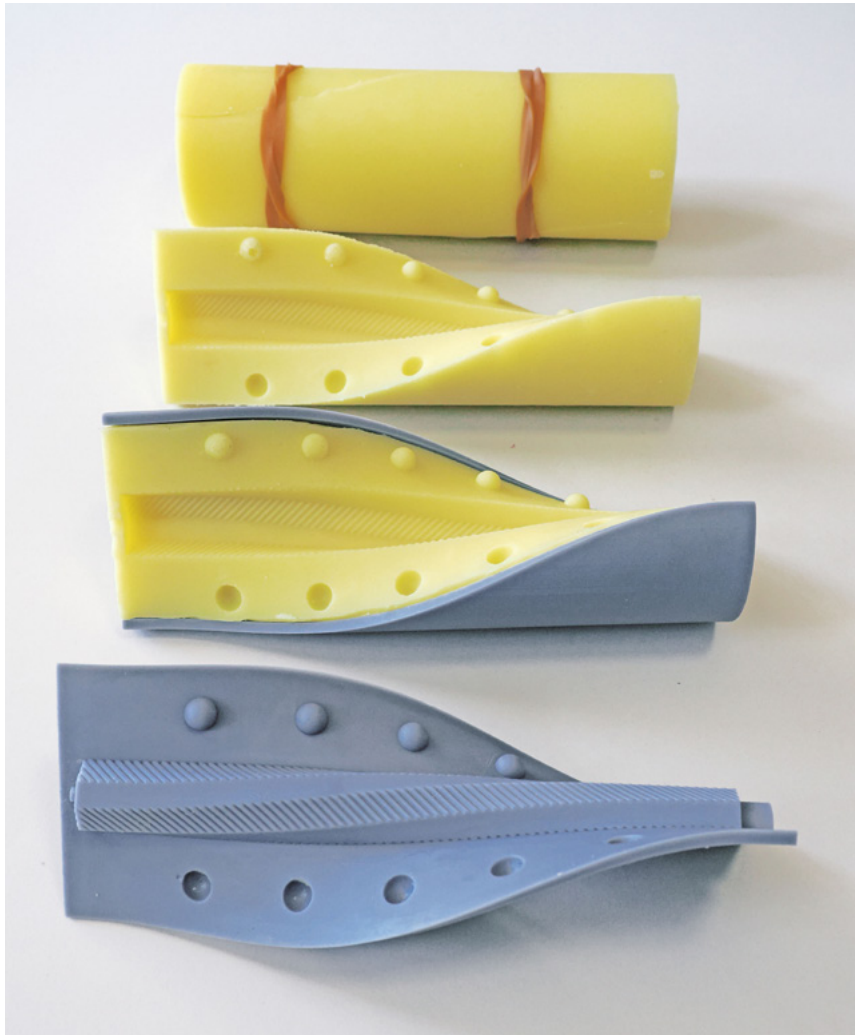
Year: 2022

Materials: beeswax, coconut wax.

Techniques: mold making,
3d printing, candle making.

Elica candle is part of research that Trama has been conducting for several years on the potential and sustainability of natural materials such as beeswax and coconut wax. This product was commissioned by ceramics brand Mud is Mood, which was looking for an original candle to match a set of modular candle holders.

Specifically, the project investigates surface effects and performan-



ce of material and color through the contrast between parts with a complex texture and smooth parts.

The object's shape, an octagon with a slight twist, involved some manufacturing challenges: to achieve a

good result, a matrix and then a silicone mould was made that could follow the twist of the candle, so that the opening edge of the mould coincided with one of the sides of the octagon, thus remaining invisible.



Above and on the previous page, The mould matrix made with an SLA printer and the silicone mould into for casting the wax.



Totem Lab

candle workshop

Trama

Partners: Densa Cooperativa Sociale

Year: 2022

Materials: beeswax, silicone, 3d printing

Techniques: mould making, 3d resin printing, candle making.

The workshop was born as a collaboration between Trama and Cooperativa Sociale Densa in the framework of ConDENSA, a project for the implementation of transdisciplinary cultural and educational practices with social repercussions together with various professionals operating in Umbria region.

The project included a series of workshops open to a wide audience that, through playful-practical activities, provides an opportunity for an introduction to basic design methodology, outlining the various stages of the process from idea to the concrete realization of an object. The labs de-

velop different themes but are united by:

- manipulation of geometric shapes or basic graphic elements;
- working of ductile materials and experimentation with color;
- the presence of historical references and questioning of pre-established common forms (the standard shape of a candle or a cookie).

The project, which includes Totem Lab and Food Design workshops, also aims to encourage a material/manual approach, creating social situations through making and thinking with hands, actions that too often appear distant or outdated today.



Above: the wax is colored and brought to temperature for pouring. To the side: candles made from participants' molds.



Workshop participants started by assembling 3d printed geometric shapes to create a personal matrix shape for their candle. Then, by placing quick-drying silicone around the matrix, they created their mold to pour the colored wax. Then, they proceeded to extract the candles.

The workshop was open to everyone and no prior knowledge was requi-



red. Through the activity, participants were able to:

- follow a project from the choice of shape to the realization of a usable object;
- approach the technique of mold making and candle making;
- confront with creative work with their hands. The activity, inspired by ceramic and glass works of designer

Ettore Sottsass Jr., questions the perpetuation of a standard form for a widespread object like the candle, opening up to new and possible formal choices. More generally, the goal is to encourage a design process free of preconceptions.



Totem Lab 2.0

The second version of the totem lab workshop had a focus on experimenting with wax. Participants had silicone molds of each geometric shape created from 3d resin printed matrix. This allowed to work on color

and fragrance of each form and then assemble a single candle composed of 4-5 different shapes, colors and scents.



Cibo come materiale

food design workshop

Trama

Partners: Densa Cooperativa Sociale

Year: 2022

Materials: 3d printed modular cookie cutters, wood, cookie dough

Techniques: 3d printing

The workshop is part of ConDENSA, a project for the implementation of transdisciplinary cultural and educational practices with social repercussions together with various professionals operating in Umbria region, in collaboration with Cooperativa Sociale Densa.

An opportunity to investigate food as an expression of cultural identity and comparison with others. Adults and Children together experimented with dough shapes and colors, transla-

ting, through an alphabet of lines and symbols, their own personal relationship with food. The activity takes inspiration from traditional objects such as iron waffle molds and wooden bread stamps (widespread in Italy and abroad) and is based on information design and graphic data visualization methodologies.



Through assembling basic 3d printed elements, participants created cookie cutters to imprint a personal shape and design on their cookie. Each line or symbol corresponds to information regarding their relationship with food, such as preferences, taboos and personal habits. The colors of the dough and the percentage in which every color is used in the cookie also had a specific meaning. At the end of the lab, which has a

strong playful component and is therefore also suitable for children guided by their parents, it was possible to “read” the cookies through the common alphabet and recognize associations to the shapes, to the number of elements and their color. The activity concluded with a moment of visual comparison and discovery of each other’s food preferences, followed by the cookie tasting.



Above: participants assemble their cookie cutter using 3d print shapes on a wooden base. Next: the cookies created by them.



Flavor

Edible material and plates

Tramastudio

Partners: Product designers Martina Carraro and Patrizia Calcagno

Year: 2018

Materials: Cornstarch, isomalt, water, food ad spices.

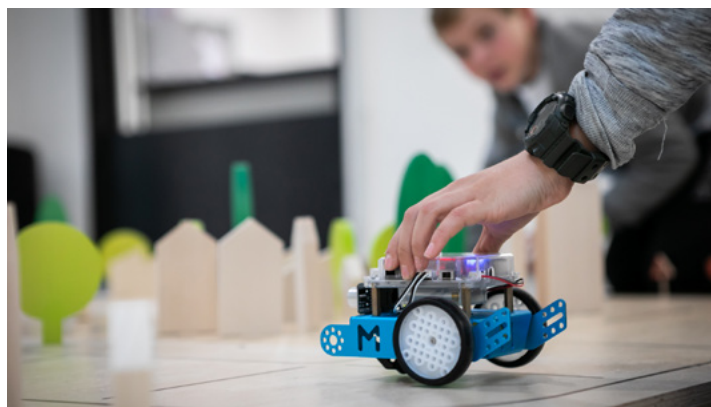
Techniques: food design

Flavor is an edible home made material, created following the “Material Driven Design” method. The idea is to create an experience in which the user is able to easily create material, content and containers. Plates, made from a mixture of cornstarch and isomalt, are colored by adding foods

and spices, such as cocoa, ginger, wine and others. At the moment of use, the plate releases flavours and odours that mix with its contents.

Some of the flavored plates, from the left wine, cinnamon and ginger, combined with different recipes. The heat of the food melts the surface of the plate releasing the aroma.





Il Trasporto del futuro

Tools for educational activities

Client: DENSA coop. soc.

Year: 2019

Materials: Birch wood, water-based paint, educational robots.

Techniques: laser cutting, painting.

A game platform for children's laboratory activities planned by DENSA, a social enterprise whose mission is to build learning spaces through game, in which children can approach themes such as environmental sustainability, new technologies, civic commitment, the relationship with beauty and art. "Il trasporto del futuro" (Transport of the future) is a learning platform for 6-12 years old



made of wood and where the only two colors used are the natural wood color and the green for trees in the sustainable city. Inside this wooden city, of which kids can decide the density and the relationship between trees and buildings, the goal is to introduce the basics of coding through the programming of a robot with wheels (mBot Robot developed by Makeblock).

The learning experience focuses on the disclosure of one of the latest research of Mit Senseable City Laboratory, founded by Carlo Ratti in collaboration with Mit Media Lab, which highlights how private cars are actually parked for 95 % of the time. Il trasporto del futuro leads children to design ways of moving in ecological cities capable of responding to the environmental needs.



There is no Planet B/ Preferisco il colore del mare

Tools for educational activities

Client: DENSA coop. soc.

Year: 2019

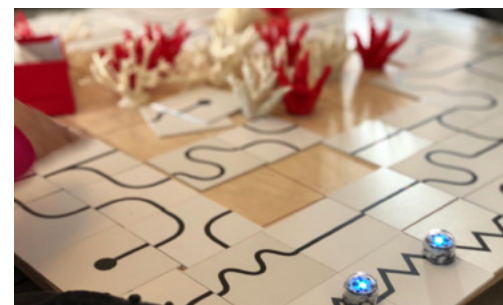
Materials: Birch wood, water-based paint, PLA, educational robots.

Techniques: laser cutting, digital printing, hand painting, 3d printing.

Two games for children's laboratory activities planned by DENSA.

The activity "There is no planet B" (above) takes place on a carpet, that recalls the image of a road, on which will be positioned wood elements that represent different types of waste: paper, plastic, aluminum.

Participants (4 -7 years old children) will have to learn to drive Photon (educational robot) through the use of a tablet, to make it drag the waste to be differentiated in the right way.



Left: There is no Planet B; on this page: two images of Preferisco il colore del Mare.

A mix of materials (on this page) makes up the environment of "Preferisco il colore del mare" (I prefer the color of the sea). Focused on the fragility of the sea and its inhabitants, the experience takes place on wooden platform engraved with a grid and involves the participants in imagining paths for Ozobot Bit (produced by Ozobot & Evolve) that moves from a point A to a point B. The points are reproductions of sick and healthy coral reef made with 3D print. The goal is to replicate the repopulating action of the habitats

destroyed by climate change as researchers from Queensland University of Technology, supported by the Great Barrier Reef Foundation, are doing through small robots.



Some shots of the presentations of the first project steps by workshop participants.

Toys design lab

creativity toys workshop

Trama

Partners: Densa Coop. soc., Doc. Alessandra Dimatteo and Ilaria Inerti.

Year: 2023

Materials: paper, PLA, fabric, etc.

Techniques: digital printing, 3d printing, sewing, etc.

A workshop of realization of children's games/activities in which design students participated together with people who had never been involved in any design practice.

The aim of the lab was to create toys with an open and collaborative dynamic to foster children's creative abilities.

Participants were supported by Trama's team along with psychologists Alessandra Dimatteo and Ilaria Inerti, who curated an insight into the



Photos show some of the toys produced during the workshop. Above: board game on bee preservation. Next: memory themed on emotions and feelings. Opposite page: plastic cleanup of the sea and marine habitat protection game activity.



role of play in children's growth. Materials such as paper, cardboard, 3d printing, fabric, and other were used to create the games by combining digital design with handcrafting techniques. Attendees were able to



follow the entire process from concept to technical execution of each artifact. The workshop, held inside a public housing complex located on the edge of a suburban area of Perugia, concluded with a final event

open to kids living in the neighborhood who could use and have fun with the designed objects, also giving the designers a chance to get direct feedback on the usability of their work.

Playground

kids workshop

Trama

Partners: Densa Coop. soc.

Year:2023

Materials: papier-mâché, PLA, tempera paints.

Techniques: 3d printing.

Run, play, learn to share spaces and activities, the playground is an environment that encourages relationship and confrontation with others. This workshop focuses on develop cooperation and teamwork among the youngest. In fact, it is the children themselves who build together their playing space by first creating and then assembling temporary structures to be inhabited, destroyed, and rebuilt. During the first session

kids created and colored some papier-mâché poles, to be combined with 3d print joints designed by the Trama team, and figured out together how to play with their new big constructions. On the second session, the children were challenged to build this architecture of primary colors that immediately became the scene for spontaneous actions and games directed by the children themselves.



Kids during the second Playground workshop session gathered in the courtyard to build the structure using papier-mâché poles and PLA joints.



The Paper Project

workshop and research

Tramastudio

Client: non-profit La Città del Sole.
Numero Zero Day Care Centre.

Year:2023

Materials: paper, paper concrete.

Techniques: papermaking, 3d printing.

In February 2023, Trama started an experimentation on the production of recycled paper upon the request of non-profit La Città del Sole, for whom Trama organized a paper pulp basic workshop held at Numero Zero Day Care Centre, a psychiatric inclusion project in Perugia. During the

workshop, centre's regular visitors used wood frames to make paper sheets from cardboard boxes destined for landfills, which were shredded and then reduced to pulp. The sheets were used to create notebooks destined for a sale to support Numero Zero community services.





Above: the process of creating paper sheets with the 3d printed frame. Next: experimental prototypes and color tests in paper concrete.

Following this experience, Trama hosted a second event, a free experimentation with Paper Pulp in which students from the Master's degree course in design at the University of Perugia participated together with other people interested in learning about the papermaking technique. For the occasion, disassemblable 3d printed frames were made to facilitate the making of the paper sheet. Participants worked on colour and textu-

re freely using food colours, textiles, spices and other materials to create different visual effects.

The two initiatives started a research and development phase that Trama-studio is currently pursuing on the aesthetic, expressive and functional potential of Paper Concrete, a low environmental impact material composed of paper pulp and mineral based eco-resins.





Enfasi

espresso set

Tramastudio

Partners: Centro Studi Assaggiatori/IIAC; Scuola Romano Ranieri.

Client: Club House porcellane.

Year: 2019

Materials: porcelain, aluminium.

Techniques: in-mould production

Drinking a cup of coffee is never just the simple consumption of a drink: it is what lies to a complex ritual which forms part of our national identity, and is realised most vividly in the form of the espresso. However, how much do we really know about this drink we consume every day and to which we have attributed a multitude of values and meanings? In other words, while the passion for coffee is shared by many, the knowledge about coffee and the ability to recognize a quality espresso belongs

The set includes the cup, the lid, the aluminium spoon and two saucers of different sizes. Surfaces and finishes are designed to stimulate the sense of touch and the shape of each element is designed to be easy and natural to hold and use.





The largest plate is designed for espresso tastings combined with desserts or other foods. The lid can also be used as a base for the spoon.

to just a few. The aim of the project is to help the consumer to perceive the complexity hidden inside a cup of espresso. For this reason the shape and the characteristics of the set (consisting of a cup, large plate, small plate, teaspoon) have been defined with the help of Centro Studi Assaggiatori of Brescia and Istituto Internazionale Assaggiatori Caffè using innovative studies on sensory

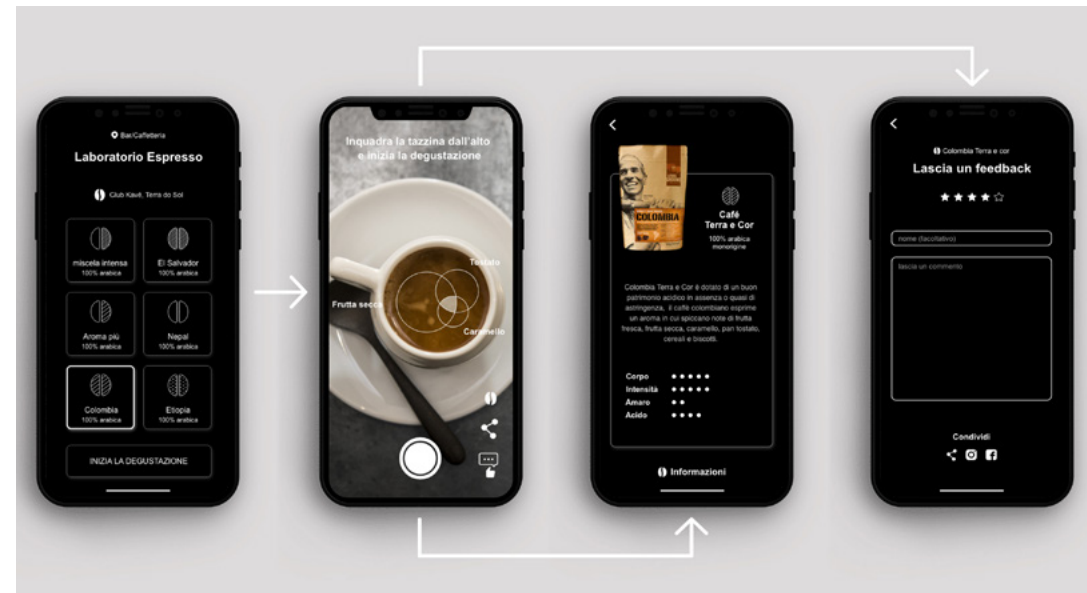
analysis. The cup is designed to amplify the aromatic profile of coffee and to help the person to easily perceive it. By changing the traditional geometry with a hemispherical shape it is possible to create an object that works as a magnifying glass for the aromas. The object then combines the necessary characteristics for the perfect extraction of espresso to a new conformation capable of



The cup's characteristics were evaluated by a panel of experts from the Istituto Italiano Assaggiatori Caffè (IIAC).

amplifying the olfactory perceptions. The features of the cup were evaluated through various tasting tests conducted by a panel of professional coffee tasters of the Istituto Internazionale Assaggiatori Caffè (IIAC). The aim of the project was to design the entire tasting moment as a whole, focusing on the multisensory aspect of the experience. For this reason particular

attention has been given to the tactile component: the relationship between the hand and the objects. In fact, the shape of the handle and of the plate creates a feeling of complementarity with the hand, as that of the teaspoon with the lips. Also the border form of the plate facilitates its grip.



On the left some of the services available on the app. On the right the use of augmented reality during the tasting moment, the information about the coffee sensory profile and the feedback procedure.

Circuito Espresso

App service
Tramastudio

Partners: Centro Studi Assaggiatori/IIAC; Scuola Romano Ranieri.
Client: Club House porcellane.
Year: 2018

An app service in combination with Enfasi set. Circuito Espresso is a network of producers, roasters, coffee shops and associations that promotes the quality of Italian espresso. Circuito Espresso members undertake to guarantee high certified quality standards, to produce in a sustainable manner and to make their products fully traceable. By using the same tools and image they acquire

visibility and identify themselves as promoters of quality in coffee. At the same time the Enfasi cup, becomes the central elements of the network and, combined with a service, a powerful information tool, which is able to guide the user during the tasting moment. Through the app and augmented reality, by framing the logo on the plate the consumer can start a virtual tasting and receive information on the coffee

he is drinking at that time in one of the Circuito Espresso coffee shop. Thanks to the app the user will have a complete overview of the product he is drinking, how to buy it, the places where to find it and he will be able to access a series of resources and contacts to deepen each coffee topic.



Ceramics + digital fabrication

technical experimentation

Tramastudio

Partners: Cerrini Ceramiche

Year: 2023

Materials: ceramics, PLA, plaster.

Techniques: in-mold production, 3d printing, 3D modeling.

Trama is partnering with a company of the Deruta (Umbria) ceramic district to make master molds, combining artisanal techniques and innovative processes.

The project involves replacing part of the manual work with digital modeling and photographic relief to then produce master molds by 3d printing and/or through the use of a CNC milling machine.

The advantages introduced by this method are:

- the rapidity of design, development of new shapes, and error resolution.
- the reduction in volume, weight and amount of used materials;
- the increase of strength and wear resistance.

The Cerrini pottery factory produces ceramics using press molds of different sizes. Molds are installed on



Above: photographic relief of the iron hoops.
On the side: the hoops positioned over the two 3d printed matrix ready for casting the plaster mold. Next page: the two parts of the mold installed on the pressing machine. Below: the pottery plates created by the mold.



the press machine through iron hoops that ensure stability and alignment of the two parts. The master molds are usually fabricated in plaster. We started by relief of the iron hoops and then developed 3d print matrix that could ensure the same alignment and precision as traditio-

nal plaster ones. Then it was possible to test on the press the molds created by the new matrix. The project is still ongoing and involves adapting the same process from 3d printing to the CNC milling machine.





On the left: Silicone matrix and the 3d printed positives. Above, Mud is Mood Intersezioni candleholder.

Intersezioni

technical experimentation

Tramastudio

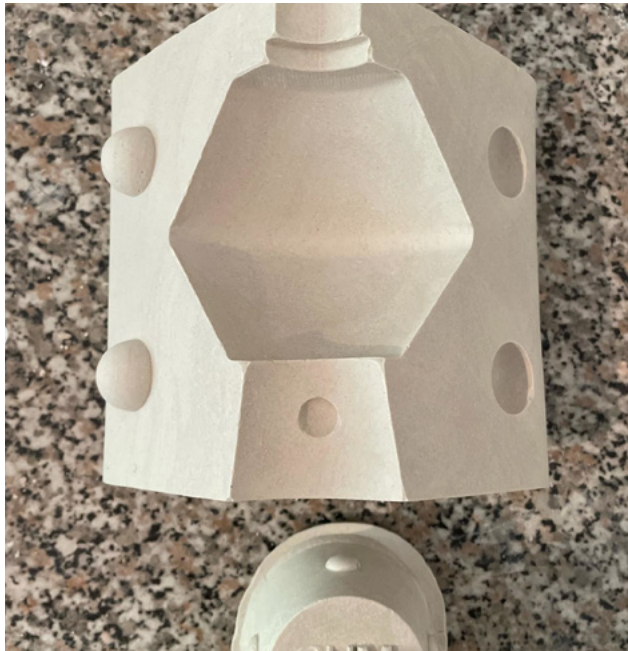
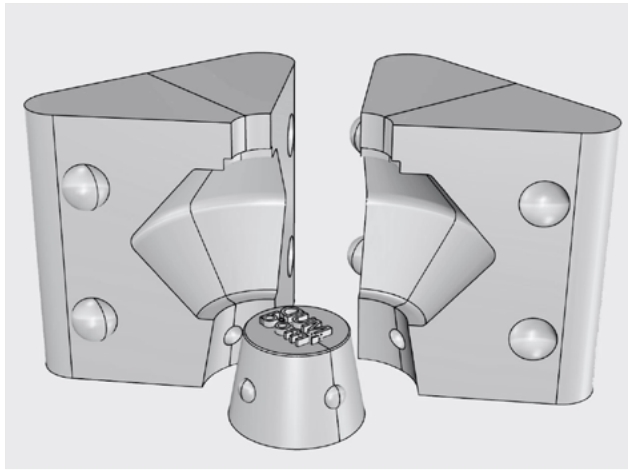
Client: Mud is Mood ceramics

Year: 2023

Materials: ceramics, PLA, 3d resins, plaster.

Techniques: in-mold production, 3d printing, 3D modeling.

This project was commissioned by ceramics brand Mud is Mood, which was looking for new ways to produce “Intersezioni”, a line of modular candleholders. We designed a five-part mold and then printed with a SLA 3d printer and an FDM 3d printer. Finally, we used casting silicon to produce a new matrix for plaster. The new matrix has higher levels of detail than those made by traditional methods. For the Intersections line, Trama also designed a specific coconut and beeswax candle.



Above: the 3d model of the mold parts. Below: the plaster mold fabricated in the silicone matrix.



Interreg Europe CLAY

Consulting and design concept

Tramastudio

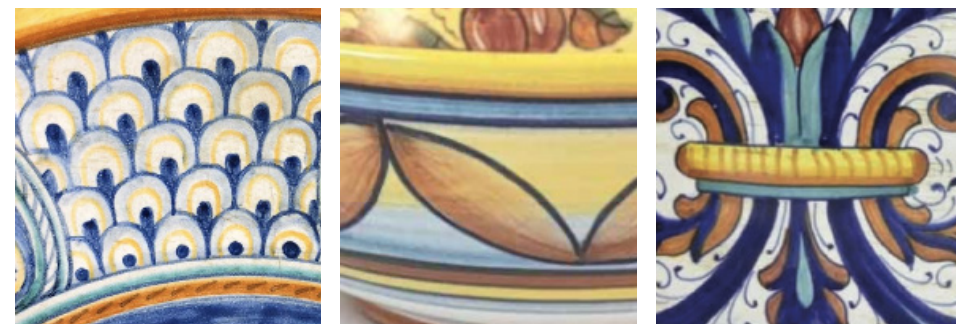
Client: Sambuco Ceramics, University of Perugia, Faculty of Civil and Environmental Engineering.

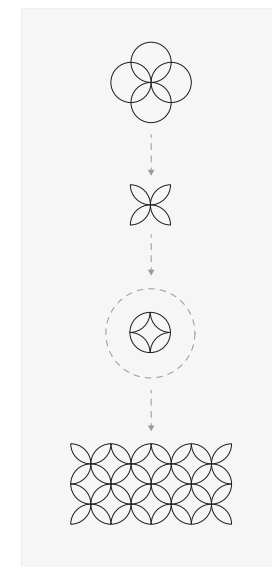
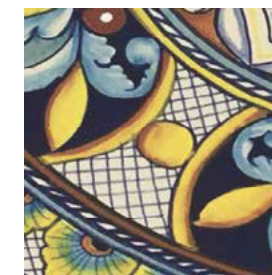
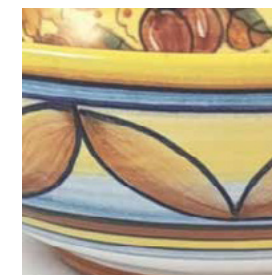
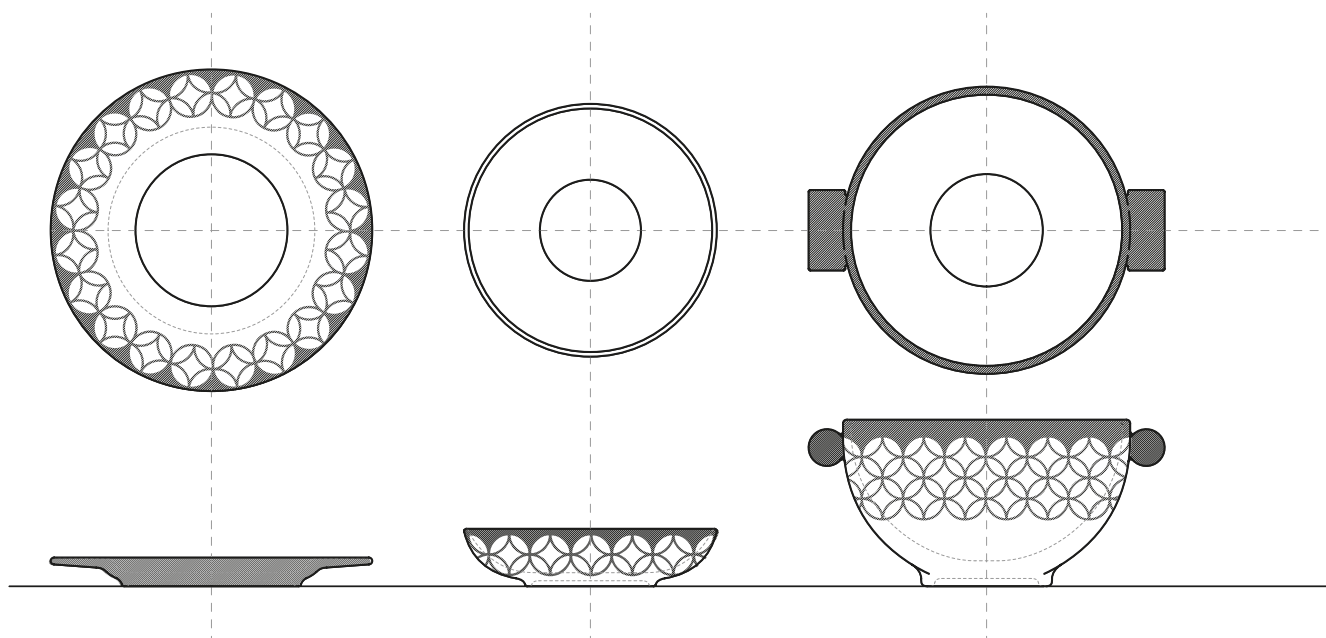
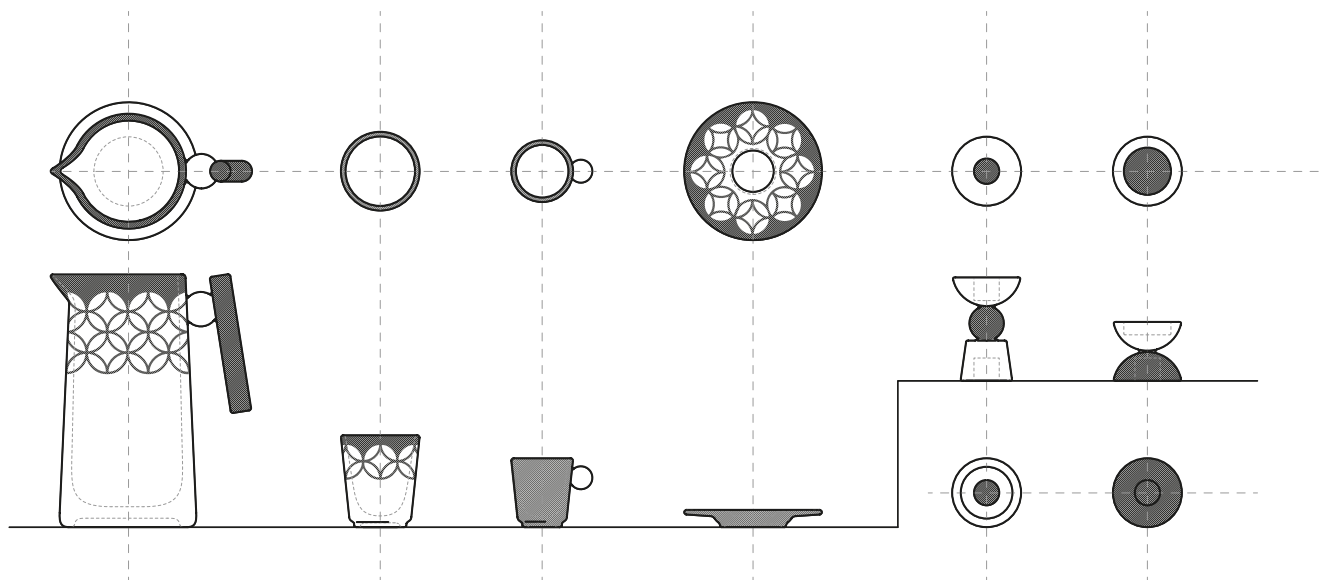
Year:2022

Tramastudio collaborated with the Department of Civil and Environmental Engineering of the University of Perugia to define new products for companies in the Umbrian ceramic sector, as part of the European project "Interreg Europe CLAY." In particular, we designed two concept of tableware products for the company Sambuco Ceramics.

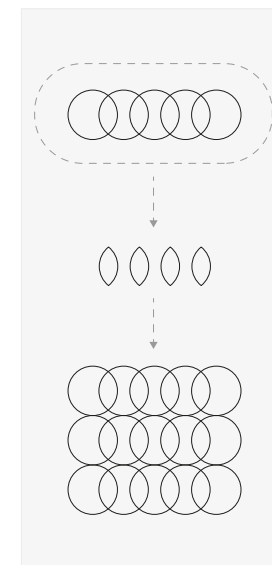
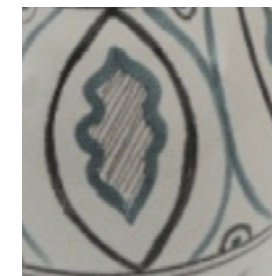
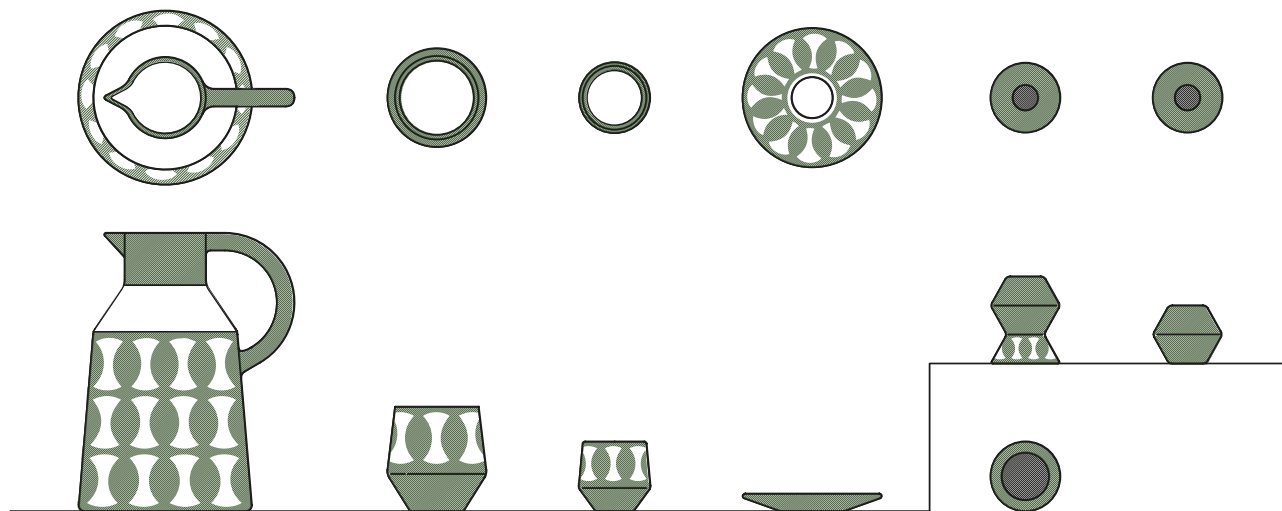
The company was interested in a new line of ceramics for table and home decor, that would meet the trends of the northern European market. The new items, produced primarily

on the potter's wheel, came as a result of analysis of northern European shapes and decorative trends. For this reason they have simple and geometrized shapes, compared to traditional Umbrian ones. For the decoration, we followed a process of stylization of traditional motifs in order to make them lighter, while leaving them intelligible. The goal was to find the right balance between enhancing the tradition/craftsmanship of the product and a contemporary taste.

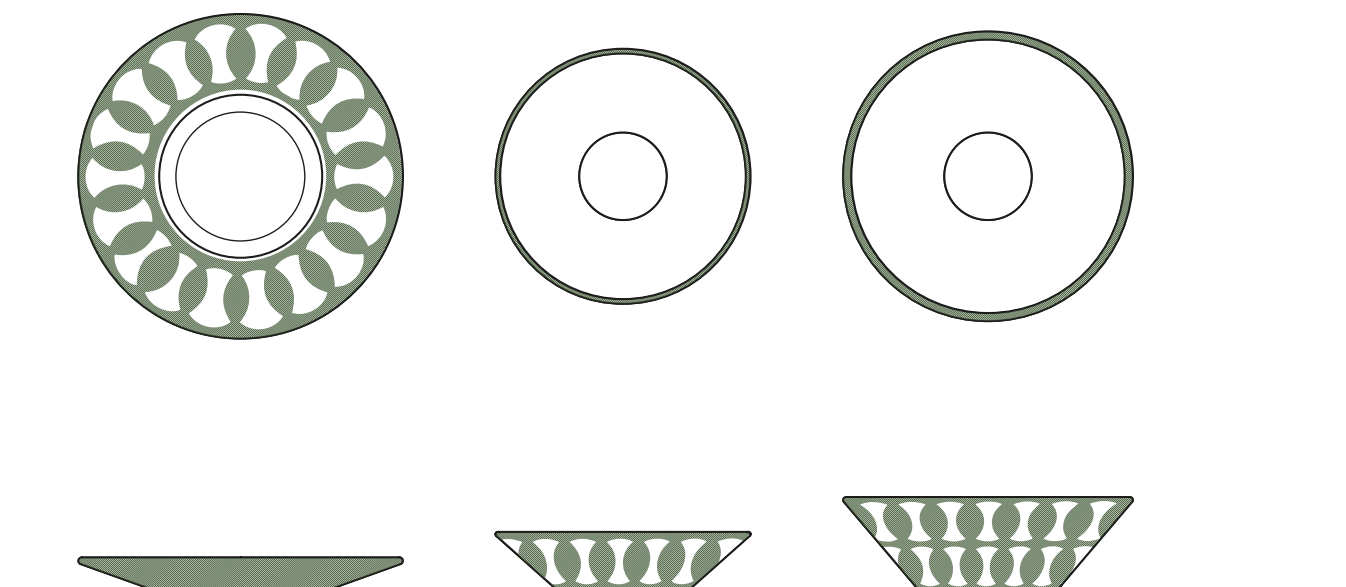




Tableware set consisting of carafe, glass, coffee cup, candle holders, flat plate, bowl, Terrine centerpiece. The shapes are the result of an assemblage of pure geometric forms; the texture comes from the simplification of recurring elements of traditional Umbrian ceramics.



Tableware set consisting of carafe, glass, coffee cup, candle holders, flat plate, bowl, Terrine centerpiece. The shapes are linear and simple, the texture comes from the simplification of recurring elements of traditional Umbrian ceramics.



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