Ladies and gentlemen, good afternoon.

I’m Cristina Allione and I’m carrying out the EDEN Research Project that now I illustrate to you.
Context

Cooperation network to **support innovation through the eco-friendly development of products**. This network is structured in the territory of the Alps-Mediterranean Euroregion.
EDEN – EcoDesign Network
Cross border network aimed at the engineering of eco-compatible product

The purpose of EDEN project is to integrate an eco-design approach in companies policies, starting from specific projects and actions as:

- knowledge transfer
- training
- promotional events.

In the meanwhile, technological and environmental studies will be conducted by all partners to help SMEs to adopt sustainable approaches.
Main activity axes of the project

> Technological and ecological **comparative study on sustainable materials** (bioplastics, biocomposites, recycled polymers...) in favour of the public/legislative bodies in favour of SMEs;

> **Ecodesign advanced services** (through the EDEN) dedicated to SMEs’ needs in the field of sustainable product engineering;

> Transfer a **technological know-how** to SMEs in the field of innovative sustainable materials and environmental friendly processes (**low energy consumption, no-plating/varnishing/chroming etc**).
Overview on the EDEN project structure

Task 1: Awareness raising in Eco-Design. The main goals are:

- contribute to a deeper awareness on ecodesign themes, both for enterprises and designers;
- diffuse an eco-approach starting from the first steps of the project;
- have the best environmental and economic results for the territory.

Task 2: Advanced Eco-Design services for SMEs. The main phases are:

- assessment of SMEs ecodesign needs and opportunities (specifications of the needs)
- improvement of ecodesign capacities (software and databases)
Project partners

French partners
- CARMA (Centre d'Animation Régional en Matériaux Avancés) – coordinator;
- CFP (Centre de Formation de la Plasturgie);
- PEP (Pôle Européen de Plasturgie);
- Plastipolis;
- CCI Nice Côte d’Azur;
- Ecole Centrale de Lyon.

Italian partners
- Politecnico di Torino:
  - DAD - Dipartimento di Architettura e Design;
  - DISAT - Dipartimento di Scienze Applicate e Tecnologia;
- Proplast (Consorzio per la Promozione della Plastica);
- Unioncamere Piemonte – Ufficio Innovazione e Trasferimento tecnologico;
- Camera di Commercio, Industria, Artigianato e Agricoltura di Torino – Area Promozione e Sviluppo del territorio.
WHAT IS IT EDEN PROJECT?
Research goals

encourage the cross border cooperation between French and Italian SMEs in order to conceive new eco-compatible products and promote a more sustainable cross-border commercial exchange

support Piedmont and French SMEs into conceiving innovative environmental sustainable products and processes, which should be assumed as key-drivers for their future development
Task 1: Awareness raising in EcoDesign

It is well known that design can become a key asset in the growth of a company.

Consequently the designer turns into a key figure having the opportunity to improve the product features since the beginning of the project.

The objective of this task is to contribute to awareness raising in EcoDesign, both for enterprises and designers, in order to diffuse an eco approach at the first step of the project and to have the best environmental and economic results for the territory, by taking into account the barriers and the internal and external stimuli that induce SMEs toward greenining their product.

This approach foster the competitiveness of European manufacturing companies, offering new solutions based on quality rather than price.

Training modules for SMEs and designers on design innovation
Task 1: Awareness raising in EcoDesign

Training modules for SMEs and designers on design innovation

- Eco-sustainability Value – June 13th, 2012
- ICT strategies and values for eco-sustainability – July 12th, 2012
- Eco-sustainable packaging – September 20th, 2012 – March 5th, 2013
  - Sustainable Communication – to be defined
  - Infodays on European funds for eco-sustainability projects – to be defined
  - Experience design - to be defined
- coCreation Camp – November 9th-10th, 2012
- PechaKucha on eco-sustainability – November 9th-10th, 2012
Task 2: Advanced EcoDesign services for SMEs

The purpose of this task is recognizing and investigating new sustainable ways to innovate products and semi-finished products, discovering unexplored potentials of the selected manufacturers through a detailed study of their characteristics.

Opening up to new markets or establishing relations with other production sectors is no doubt in line with the natural evolution of corporate development.

In order to create a pool of companies willing to explore their manufacturing processes in an innovative way, 11 manufacturing companies (6 Italian and 5 French) have been selected to access to the Advanced EcoDesign services.
SMEs selection

The SMEs selection was held in May-June 2012 at the Turin Chamber Commerce.

- MATTIOLI S.p.A. - Torino
- CO.FI.PLAST. S.r.l. – Lessolo (TO)
- COLENGHI S.r.l. - San Mauro (TO)
- DIPROMED S.r.l. - San Mauro (TO)
- E.A.SY. S.r.l. - Romano Canavese (TO)
- INKMAKER S.r.l. – San Gillio (TO)
- MOD.EN S.r.l - Rivoli (TO)
- OLIVERI S.r.l - Alessandria
- QUERCETTI & C S.p.A. - Torino
- RIGAMONTI GHISA S.r.l. – Valduggia (VC)
- RUBINETTERIE RITMONIO S.r.l. - Varallo Sesia (VC)
- SEPA GROUP S.r.l. – Poirino (TO)
- SHIELD S.r.l. - Cavaglietto (NO)
- T.C.G. ITALIA S.r.l. - Settimo (TO)
- TUTTOVO S.r.l. – Rivoli (TO)
- VERMAC S.r.l. - Torino
- WIRES ENGINEERING S.r.l. – Lessolo (TO)
WHAT IS THE METHODOLOGICAL APPROACH ADOTED TO DEAL WITH AND MANAGE/arrange THE ADVANCED SERVICE/THE ONE TO ONE SUPPORT TO EACH SELECTED FIRMS?
Adopted methodological approach

It has been created a dedicated research team that accompanied the selected companies in the project of innovative products by adopting the Politecnico Methodological Approach: NEEDS/REQUIREMENTS/PERFORMANCES.
Adopted methodological approach

IMPROVE COMPANY AWARENESS

- **Company scenario**:
  - Milestones overview
  - Brand identity
  - Brand positioning
  - Competitors analysis
  - Sales strategy

- **Process scenario**:
  - Materials
  - Semi-finished products
  - Process technologies
  - Finishings
  - Assembly systems

- **Product scenario**:
  - Product lines
  - Best-seller product
  - Brief and target
  - Sales strategy
  - LCA analysis

LIFE CYCLE APPROACH

IDENTIFICATION OF WEAKNESS/STRENGTHNESS

STRENGTHENING COMPANY IDENTITY
Adopted methodological approach

IMPROVE COMPANY AWARENESS

company scenario
process scenario
product scenario

LIFE CYCLE APPROACH
WEAKNESS/STRENGTHNESS

STRENGTHENING COMPANY IDENTITY

META-DESIGN PROPOSALS
&
MARKETING STRATEGIES

NEEDS/ REQUIREMENTS/ PERFORMANCES APPROACH

MARKETING CONSULTANCY

PROJECT DEVELOPMENT
BY THE FIRM AND THE RESEARCH TEAM
Adopted methodological approach

IMPROVE COMPANY AWARENESS

LIFE CYCLE APPROACH
WEAKNESS/STRENGTHNESS

STRENGTHENING COMPANY IDENTITY

META-DESIGN PROPOSALS
&
MARKETING STRATEGIES

NEEDS/ REQUIREMENTS/
PERFORMANCES APPROACH

PROJECT DEVELOPMENT
BY THE FIRM AND THE RESEARCH TEAM

NEW MARKETS
RESULTS DISCLOSURE

MARKETING CONSULTANCY

new products
new processes
WHAT IS THE METHODOLOGICAL APPROACH ADOPTED TO DEAL WITH AND MANAGE/arrange THE ADVANCED SERVICE/THE ONE TO ONE SUPPORT TO EACH SELECTED FIRMS?
Selected SMEs

SMEs applicants are related to different production fields.

- **MATTIOLI S.p.A. - Torino** - jewelery
- **QUERCETTI & C S.p.A. - Torino** - educational toys
- **RUBINETTERIE RITMONIO S.r.l. - Varallo Sesia** - taps and fitting components
- **SEPA GROUP S.r.l. - Poirino** - wood furniture and wood semi-finished products
- **T.C.G. ITALIA S.r.l. - Settimo Torinese** - 3D objects in EPS, cut with a hot-wire process
- **TUTTOVO S.r.l. - Rivoli** - biological sauces and gluten-free ice cream
### TECHNOLOGIES AND MATERIALS

<table>
<thead>
<tr>
<th>Mattioli</th>
<th>Goals of the support</th>
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<tbody>
<tr>
<td>Mattioli designs and produces jewels for its own brand Mattioli and also for several famous international brands.</td>
<td>Research new materials to replace or match with gold:</td>
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<td>• light gold: ethic gold, recycled gold</td>
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**Involved partner:** Politecnico di Torino (DAD)

**Mattioli designs and produces jewels for its light gold**

**Goals of the support**
Research new materials to replace or match with gold:
- light gold: ethic gold, recycled gold
- lighten gold: expanded gold, insuffled gold
- Not only gold (different percentages): new material match with gold
- No-gold: which material can replace gold?

**Involved partner:** Beatrice Lerma, Eleonora Buiatti, Doriana Dal Palù, Marco Bozzola with Marco Actis (DISAT)

The rationale behind the collaboration with Mattioli brand lies in finding and testing materials to be paired with gold, to improve the environmental profile of jewels and with a view toward enhancing innovation and the jewel identity, as with the Mattioli’s well-known “chocolate gold”. Furthermore, these new materials must live up to the legacy of traditional Mattioli jewels.

### RESEARCH GOAL
research of materials to supplement or replace the gold in the jewelry a special Mattioli’s collection
- Testing the use of ethical gold and certified recycled gold;
- Investigating the use of lighten gold or gold foam;
- Finding out new materials to match with gold, with possible connections with the district of Turin and its customs;
- Proposing other materials replacing gold.
The research team proceeded according to the following steps, completing qualitative and quantitative analyses, while using specific equipment:

• Background analysis of the jewel in order to point out both the stereotypes and new possible options representing an innovation in this field. This overview focuses on materials, processes, sustainability, relationships with the productive district and new parts that could complete or coordinate with a jewel;

• Analysis on the perception of the jewel through research sessions guided by a cognitive ergonomics specialist, so as to probe different materials, possible matching, and potential gold finishing. The eye-tracking device examined the attendees’ reactions to Mattioli jewels, in order to establish paradigms of preciousness, innovation and sustainability;

• Meta-project suggestions to Mattioli in terms of material innovations, processes and finishing.

In particular, for what concerns materials, the research team suggested the introduction of light alloys in its jewels, creating a parallelism with the aeronautic high-tech industry in Piedmont.

As for the productive process, the team recommended ground-breaking technologies to achieve more complex and detailed shapes though preventing productive waste (as in the currently used throwaway prototyping process).

Lastly, the research team suggested to turn cheap materials into precious, with the help of high-performances coloured finishing (DLC-Diamond Like Carbon Coating). This will have the twofold benefit of changing its appearance while keeping its innate features as well as improving wear resistance and biocompatibility.
QUERCETTI&C_scenario analysis

TECHNOLOGIES AND BRAND IDENTITY

Fantacolor pegs
267 educational toys organised in 8 different product lines: all of them are designed and completely realized in Italy, most of all in ABS. Fantacolor pegs are Quercetti’s masterpiece and the focus of the research.

PRODUCTS

Goals of the support
• Make aware and sensitize Quercetti towards green design by using environmental friendly materials and processes;
• Material substitution with eco-friendly polymers or bio-plastic.

Involved partner:
Proplast and Politecnico di Torino (DAD)

Piero Cavigliasso (Proplast)
Claudia De Giorgi, Cristina Allione, Luigi Castaldi

Quercetti company has been designing, producing and selling educational toys for children for more than fifty years (since 1946). Nowadays it produces 267 toys organised in 8 different product lines, and all of them are designed and completely realized in Italy (starting from the mould for injection moulding). Furthermore, since last year Quercetti has been increasing the sales through e-commerce.

RESEARCH GOAL
To make aware and sensitize Quercetti towards green design by using environmental friendly materials and processes.

The research team suggested the company to verify the possibility to replace some traditional polymers (PP) processed by Quercetti with bioplastics or other materials offering an improved environmental profile.

Proplast, a consortium for the promotion of the plastic culture and also partner of EDEN/Alcotra project, has stepped forward to coordinate this project strategy. Subsequently, the research team of DAD will support Quercetti and Proplast in outlining the perceptive qualities of the new product and in redesigning the communication and packaging strategies, in order to make the company more environmental friendly.
POSSIBLE GUIDELINES

Material substitution with eco-friendly materials or bio-plastic

Goals of the support

Testing the use of bio-polymer in the educational toys sector in accordance with the safety rules/legislation and the traditional requirements that have to be satisfy by the toy;

Analysing the perceptive qualities of a toy prototype made of bio-plastic in order to analyse the sensorial point of view of the final user;

Delineating eco-design concepts for a project of an innovative more sustainable packaging;

Improving the environmental declaration aimed at the final user/consumer;

Scenario Analysis pathway and results up to now

Between different intervention strategies, the research team has decided to adjust the strategy on a material replacement for one of the most successful toys: the Fantacolor’s peg.

Through this policy, the company could communicate environmental topics more effectively. Furthermore, sustainability could be offered as a cross strategy in toy production, instead of being just an additional cost or something appealing only to those customers sensitive to environmental matters.

With this in mind, the research has outlined scenario analysis, by adopting the following steps:

• the distribution of sales on different product lines (Fantacolor Design, Portable, Basic),
• the most successful version between different line pegs,
• the best distribution channel for pegs (e-commerce or retailer), different packaging to sell pegs,
• the competitors of Quercetti that has already adopted bioplastics or recycled plastics in their toys.
Rubinetterie Ritmonio consists of two lines of business:

- the industrial division that produces valves and fittings serving industries, and
- the domestic division that designs and produces domestic water taps for bathroom and kitchen areas.

**Research subject of the EDEN/Alcotra project: improving the environmental performance of Ritmonio taps.**

The collaboration mainly focuses on the joystick handle tap, the research concentrated on this type of domestic taps because of its popularity in Italy, and because it reaches high levels of criticism. It entails different cleansing actions: washing hands and brushing teeth, cleaning tools (razors and toothbrushes), filling the washbasin and others. Furthermore, it has to fulfil frequent adjustments of flow rate and water temperature, tipically short-time. Flow rate and flow quality are two very important factors, and they affect the tap performance. These factors depend also on external conditions such as constructive qualities of the plant and pressure in water supply.

**Goals of the support**

**RESEARCH GOAL**

To improve the environmental performances of the taps Ritmonio.

- Reducing and controlling the flow rate;
- Facilitating the water temperature regulation;
- Increasing water/air ratio that comes from the tap;
- Avoiding hot water and the relating heater activation;
- Modifying user behaviour, by preferring the use of cold water;
- Making the user responsible for water consume;
RITMONIO_metaproject proposals

INNOVATIONS IN TAP COMPONENTS

How grant water and energy saving by common users?

Two metaproject solutions have been defined to allow any user to be more aware of water and energy consumption, such as:
- a new stainless steel tap with the standard configuration (with a dynamic flow rate limiter)
- a new tap with a dynamic flow rate limiter cartridge and an extension of cold water supply.

POSSIBLE GUIDELINES

• Analysing the criticality of the operation of conventional taps
• Defining strategies for the water and energy saving during the use
• Researching components and configuration for the water and energy savings

The Scenario Analysis carried out by the research, should be divided in the following steps:
• Analysis of the traditional taps functioning, by identifying the main components (cartridge, aerator, flow rate regulator and control lever);
From this analysis follows that the tap performances depend on properties and arrangement of single components (faucet spout and body, joystick handle, mixer cap, tap aerator, possible pressure adaptor). For each component it is possible to test the performances both in standard and in extreme conditions, which means excluded from other components that constitute the tap system.
• Analysis of the different performances of single components available on the market (also testing other matching) in order to measure performances and consumptions with different configuration and water supply.
Specifically experimentation has been made on different combinations of tap components by using a same functional scheme in order to underline the several relationships that should be influenced by the water consume.
As a consequence, several tests have been made with a constant water static pressure (4bar – 3bar – 2 bar – 1bar) on the cartridge (with dynamic flow rate and/or temperature limiter, with return on cold water when the tap is closed, etc.), on the aerator (standard or with pressure compensating) and on the flow rate regulator (installed in the tap or in the flexible metal hose).
• Defining ecodesign guidelines focused on some tap components, such as on the flow rate regulator (where is not possible to install aerator or only for cold water supplying), on the cartridge (with an extension of the cold water supply or with an automatic closing on cold water) or to match cartridge with aerator (with pressure compensating, with dynamic flow rate reducer/compensator with standard aerator).
Meta-project solutions outlining, where some identified guidelines are combined together in order to conceive and design an innovative and more sustainable water tap.

As a result, two metaproject solutions have been defined that permit any user to be more aware of consumption of water and energy resources, such as:
1. a new tap made of stainless steel that adopt the standard configuration (with a dynamic flow rate limiter) or
2. a new tap that adopts a cartridge with a dynamic flow rate limiter and an extension of the cold water supply.

In this way it is possible to reduce the water and energy consumption, because with this component it is possible to reduce the water wastefulness and to avoid the hot water heater activation (for the plant equipped with this device).
SEPA GROUP_scenario analysis

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<tr>
<th>TECHNOLOGIES AND PROCESS SKILLS</th>
<th>PRODUCTS</th>
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<td><strong>Uthesign</strong>&lt;br&gt;This product line is fairly recent, and the main criticism is its modest product identity. The Group aims at a high quality product and holds some <strong>groundbreaking technologies of wood saw, edge banding and snap-fit assembly systems.</strong>&lt;br&gt;&lt;br&gt;&lt;br&gt;Clara De Giorgi, Claudio Germak&lt;br&gt;Cristina Allione, Eleonora Buatti with Simone Cirillo</td>
<td><strong>Goals of the support</strong>&lt;br&gt;• Improve the Uthesign product identity;&lt;br&gt;• Design modular products;&lt;br&gt;• Communicate the environmental sustainability of the firm;&lt;br&gt;• Re-organizing the Uthesign catalogue.</td>
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Involved partner: Politecnico di Torino (DAD)

SEPA Group originated as a chipboard manufacturing. Nowadays, SEPA business operates on three different areas:

• customized exhibitor/case and shop furnishings,
• home furnishings – with Uthesign, a design-oriented product line – and a snap assembly wood flooring system (the company holds the international patent) for courts and playgrounds - wooden floor for sports facilities.

Furthermore, this Group aims at a high quality product and holds some technologies of wood saw and edge banding.

**Research subject of the EDEN/Alcotra project: Uthesign product line**

The research team has identified, according with the firm, the Uthesign product line as the most suitable focus of the EDEN/Alcotra project. Since this product line is fairly recent, the main criticism is its modest product identity.

In tandem with products that resonate with the style of famous brands, in SEPA production there are some very interesting items that offer a wide testing ground for EDEN/Alcotra project.

The suggestion of the research team is to promote a new identity for this product line, in order to strengthen the environmental attitude of the company.

**Goals of the support**

Strengthening/improving the identity of Uthesign product line;
Redesigning domestic furnishing from a modular point of view; with modular furnishing one can buy a specific number of modules, depending on personal needs;
Designing new products maintaining the feature of three-dimensional milled surface;
Replacing currently used wood with short distribution chain wood (e.g. the company grows a poplar orchard nearby the headquarters in order to counterbalance CO₂ emissions);
Enhancing the Uthesign catalogue, dropping its ingenuity and rectifying its tone.

**POSSIBLE GUIDELINES**

A new approach to better understand the reality of SEPA and EDEN project development. Moreover, the market potential of this project, the environmental benefits, and the strategic positioning of the product in the market.
SEPA GROUP_metaproject proposals

How to create a stronger product identity starting from current production?

NEW PRODUCT IDENTITY | PRODUCTS
---|---
relax in the nature | crosswords and pastimes

The new design concept, “Relax in the Nature”, redefines the whole product line. This could be the underpinning for both the catalogue and the products, maintaining those “aligned-with-the-concept”, and replacing the “not-aligned” ones with new products, stronger in the sustainable brand identity.

Scenario Analysis pathway and results up to now

First of all, the research team faced with a background analysis according to the following steps:

- Company overview including a chronological analysis of the firm development;
- Analysis of all the Uthesign items by using a common format for each product, that outlines the presence of different materials, production and manufacturing processes, the assembly system, the installation and setup technique, the waste analysis/hypothesis from the wood cutting processes;
- Analysis of the distribution channels (through e-commerce or retailers), competitors and a specific focus on the number of sales in relation with different targets (20-30 years old, 31-40 years old and over 40);
- Desk analysis on the Uthesign catalogue in comparison with those of the competitors (Ikea, Maison Du Monde, Bonaldo and Dammi Design).

From all these analyses, the research team outlined weakness but also potentiality in the current furnishing production by Uthesign.

The research group focused a new design concept, “Relax in the Nature”, in order to redefine the whole product line: Nature and Relax.

This could be the underpinning for both the catalogue and the products, maintaining those “aligned-with-the-concept”, and replacing the “not-aligned” ones with new products, stronger in sustainable brand identity.
TCG Italia is a manufacturing company that has stakes of customized 3D objects in extruded or foam polystyrene (EPS), obtained by an advanced **hot-wire cutting process**

The research team invited the company to strengthen the collaboration on Sinergia One line.

Nowadays, Sinergia One has two different product lines: Sinergia Building, which produces EPS building components with cement plaster coating (for ledges, false ceilings, column claddings...), and Sinergia Design that produces street furnishing, interior furnishing as three-dimensional wall panelling, set for theatre stages and fittings for wellness centres.

The raw waste matter is milled and recycled directly by EPS producer, instead the finished waste matter is milled and used as filler in concrete production.

This overview points out that almost every product is currently custom-tailored; starting from this remark, it’s necessary to find a new channel that allows a standardization of TCG products.

**Goals of the support/RESEARCH GOAL**
To search innovative and sustainable applications of the SINERGIA ONE - EPS hot-wired processing

- Realizing a single catalogue (joining Sinergia Design and Building catalogues), supplying the documentation on sale prices of serial products and underlining the technical skills of TCG products instead of their application;
- Searching innovative and sustainable applications of the SINERGIA ONE - EPS hot-wired processing, by focusing on lightness, stiffness, plasticity and fire-resistance properties of the materials (such as navigation, aviation, railway field, camping van field, street furnishing as fountains and outdoor flower pots, and other possible trades connected with the stone market).
T.C.G. ITALIA_metaproject proposals

**NEW APPLICATION FIELDS**

- Aeronautics and nautical

The outstanding lightness of EPS makes it suitable for **nautical and aeronautics fields**.

**Compulsory tests:**
- **Vertical test (V12)**
- **Smoke Density & Toxicity test (SD&T)**

**NEW PRODUCTS**

- **Multi-matter system:** Polycarbonate (PC) carter filled with an expanded polymer, lined with eco-leather
- **Single-matter component:** EPS sideboard strengthened with stiff resin

**Involved partner:**
Politecnico di Torino (DAD)

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**Scenario Analysis pathway and results up to now**

In order to find out new applications of the EPS product and technologies, a scenario analysis has been carried out as the following steps:

- **Material properties analysis:** the EPS semifinished products currently could be finished with other materials layer (stone layer) or with synthetic resin, flexible or rigid and analysis of the technologies processes available in the company. This establishes different traditional and environmental properties of the semi-finished product in accordance to its application.

- **Analysis of the current applications fields,** that should be divided in external applications like urban furniture, banner and signs, decorative building components, building thermal coating, etc., and internal applications like decorative panel wall, floor cealing, furniture and temporary exhibit, bath furnishings;

From the background analysis concerning the currently applications and the technological and environmental properties of the material, it has been possible to point out and explore new application fields where is possible to apply the EPS 3D products such as an industrial and serial product (not customized) and at the same time is possible to improve the environmental performances of the final product.

Following this methodological approach, the research team has pointed out the transportation field as a new possible trade for its standardized components (air, boat and train internal furniture).

Specifically, the focus has been on the pertinence in aviation field of Sinergia One technology.

In order to verify this premise, the team engaged cooperation with a company that designs and produces interior fittings and seats for planes and ships.

The company has been selected also according to its productive capacity and process; indeed, it is able to adapt the production to customer’s specifications (airline companies and private plane producers), holding steady structural and configuration characteristics. It has a simple production structure, with some almost-handcrafted process divisions; it is organised in limited series in a medium-long timeslot.

Cooperation with a company (GEVEN) that designs and produces interior fittings and seats for planes and ships. A material substitution can ameliorate some components performance in case of air crash.

From the similarities between Sinergia ONE and the producer of plane and train interior fittings and seats has emerged a potential synergy.

Consequently, at the present time, thanks to the available test laboratories of the plane interior fittings producer, some samples of the Sinergia ONE are submitted to some compulsory test concerning the flammability and smoke emissions of the semifinished product adopted in the aircraft.

If the EPS samples will pass the tests, in partnership with the plane interior fittings and seats producer, the design team will delineate a meta-project focused on the material substitution of some components fore plane seats with the EPD semifinished products.
At this time, this company articulates its activity on two main edible product lines:

- “Natura è Piacere” (literally “Nature is Pleasure”), a set of biological dressings and sauces, and
- “Biogelateria” (literally “Bio ice-cream parlour”), i.e. gluten-free ice cream.

All in all, the company produces foodstuff using patented technologies, and processes Italian biological and organic food only, entirely gluten and lactose-free, without spoilage inhibitors and food colourings. Basically, every processed food must guarantee the environmental requirements in order to assure a top quality final product.

**Research subject of the EDEN/Alcotra project: improving the environmental performances of Tuttovo packaging products**

Hand in hand with the company, the research team arranged to design eco-innovative concept for the packaging of the biological dressings and sauces products in order to improve their environmental profile; it followed that the design team re-configured the dressing packaging: they now put their dressings in glass jars or cheerpacks made from a multi-layer laminate material.

**Goals of the support/RESEARCH GOAL**

- To improve the environmental performances of the food packaging.
- To delineate innovative concepts for more sustainable packaging of the biological dressings and sauces products
- Testing the use of bioplastic materials in the re-design of the existing packaging;
- Designing a packaging for the sale of products (sauces) in light stores that sell bulk products

Every processed food must guarantee the environmental requirements in order to assure a top quality final product.
In order to delineate the Scenario analysis, the research has dealt with several backgrounds analysis, such as:

- **Product packaging analysis**, by a detailed study of the currently adopted packaging in order to underline environmental and communicative weakness and strenghtness. Moreover an Eye-tracking session has been made with the purpose to analyse the perceptive and sensorial qualities of the existing Tuttovo packaging;

- **Competitors analysis**, the Tuttovo packaging are compared with packagings of other producer of the same kind of food product (biological sauces, ecc.), that are easily available on the market, in order to delineate a state of the art of the existing typologies of packaging;

- **Overview of innovations in food products sectors**, specifically studies have been made about the biological food retailing system from the point of view of the consumer and the emerging realities that sell unpacked foods in order to reduce the high number of waste due to the food packaging.

Starting from the results of these backgrounds analysis, first of all, two main user consumption modalities has been pointed out: expert and trier costumers, that should be characterize by “slow”/careful behaviour and regular and indifferent consumers that assumes a fast, not attentive behaviours, during the purchase and the consumption of the food products.

By assuming as target user the consumers with a slow behaviour, 4 research directions are in progress:

- **Designing new labels** able to improve the communication of the food qualities to the identified target user;
- **Delineating a feasibility scenario** for delivering the Tuttovo products as unpacked food;
- **Conceiving new concepts** for the design of an innovative Tuttovo packaging, by focusing, for example, on the design of single portion packaging with the purpose to satisfy specific needs of celiac and the same time do not increase the waste of food packaging;
WHAT IS THE METHODOLOGICAL APPROACH ADOTED TO DEAL WITH AND MANAGE/arrange THE ADVANCED SERVICE/THE ONE TO ONE SUPPORT TO EACH SELECTED FIRMS?
Pilot test of new activities for SMEs

An additional aim of task 2 (Advanced EcoDesign services for SMEs) is to provide a **market-oriented advanced assistance** to some of the involved SMEs.

The adopted strategies for this assistance are:
- Consulting with ecodesign marketing specialists
- Positioning new products both in domestic and in foreign markets (International marketing support)
- Strengthen the brand identity
- Helping the business development (business plan, patent, export, etc.).
Selected SMEs for the marketing assistance

Italian partners of the project selected three SMEs that particularly needed a marketing assistance.

- **MATTIOLI S.p.A. - Torino** - jewelery
- **QUERCETTI & C S.p.A. - Torino** - educational toys
- **RUBINETTERIE RITMONIO s.r.l. - Varallo Sesia** - taps and fitting components
- **SEPA GROUP s.r.l. - Poirino** - wood furniture and wood semi-finished products
- **T.C.G. ITALIA s.r.l. - Settimo Torinese** - 3D objects in EPS, cut with a hot-wire process
- **TUTTOVO s.r.l. - Rivoli** - biological sauces and gluten-free ice cream
Thank you for your attention,
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