LAYMAN’S REPORT 2017-2021

New circular business concepts for the predictive and dynamic environmental and social design of the economic activities.
Part. 1  The European Union LIFE programme.
Part. 2  Sustainable Development. The scenario.
Part. 3  FORTURE PROJECT (LIFE FORCE OF THE FUTURE): partners.

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The European Union LIFE programme.

ABOUT THE PROGRAMME
Introduced by the European Union in 1992, this programme deals with co-funding for projects on environmental issues proposed by member countries.

OBJECTIVES
The programme aims to promote an economy with a more efficient and sustainable use of environmental resources, reduce CO2 emissions, reduce climate change, improve environmental quality, combat the degradation of ecosystems, and pursue better environmental legislation.

BENEFICIARIES
Enterprises (small, medium, and large), public-sector organisations and research centres, and private-sector non-profit organisations (NGOs, NPOs).

The Force of the Future project is part of the Life programme.
The LIFE Force of the Future project has introduced the sustainable development approach in the manufacturing industry.

The concept of sustainable development is results from an overlapping of three different areas.
ENVIRONMENTAL SUSTAINABILITY
This is the ability to conserve natural capital without upsetting the balance of the system over time through efficient and rational use of resources.

SOCIAL SUSTAINABILITY
This is the ability to conserve social capital by promoting human wellbeing and safeguarding social communities for future generations.

ECONOMIC SUSTAINABILITY
This is the ability to ensure not only quantitative growth of economic capital but also qualitative growth, taking into account the impact of development on natural and social capital.
Technological development and sustainability

Although technological development and the introduction of new technologies have contributed to reducing the environmental impacts of many industries, the environment is a variable that has not yet been fully incorporated into manufacturing processes.
The ceramics industry and sustainability

In the ceramics industry, environmental impacts are generally monitored using a static methodological approach, within which tools process data collected prior to the time of the measurement, i.e. after the environmental loads.

Critical issues

- The static tools employed for environmental impact assessment cannot be used to make quick corrections to the process and the product, because the analyses are based on series of historical data, i.e. after the impact has already occurred.

- In industry, social and economic impact assessments are not commonplace.

- Data collection for both environmental, social, and economic impact assessments is an extremely lengthy, complex process which requires the skills of qualified personnel.
THE PROJECT

Administrative details

Project reference number: LIFE16 ENV/IT/000307

Duration: From 1 OCTOBER 2017 to 31 MAY 2021

Total budget: € 5,036,069.00

EU contribution: € 2,577,101.00

Project locations: Emilia-Romagna (Italy), Madrid (Spain), Veneto (Italy).
The project partners.

Project management is coordinated by the Gruppo Ceramiche Gresmalt (Italy) in conjunction with two academic partners. Gresmalt has incorporated the sustainability assessment tools developed by the two universities into its business processes.

University of Modena and Reggio Emilia (Italy)
This partner developed the environmental assessment tool and conducted research into environmentally friendly ceramics.

Universidad Rey Juan Carlos (Spain)
This partner developed the economic assessment tool and the social assessment tool.
The LIFE Force of the Future project was begun in October 2017 with the aim of developing a sustainable manufacturing model for the manufacture of ceramic tiles.

Employing Industry 4.0 digital technologies, the system enables users to analyse sustainability parameters in real time.
The LIFE Force of the Future project combines environmental, economic, and social impact assessment tools within a single system called **DYCTA**.

**ECODESIGN SYSTEM**

**DYCTA** also functions as an ecodesign model and can be used to analyse the sustainability performance of alternative product and process scenarios.

**REAL-TIME DATA**

Data collection has been automated and the environmental and socioeconomic impacts are determined and analysed as they occur.

To validate the effectiveness of **DYCTA**, an innovative collection of ceramic tiles with particularly eco-friendly features has been designed and manufactured.
DYCTA is an integrated tool for the environmental and socioeconomic assessment of the production processes.

It is based on Industry 4.0 digital smart technologies in place in the Gresmalt facilities.

DYCTA enables real-time collection of data on production, consumption of natural resources (raw materials and water) and power (electricity and natural gas), and emissions.

The data is collected through a network of sensors that monitor all the stages in the production cycle in real time.

Production monitoring software - in the form of MES (Manufacturing Execution System) - sends the information to the ERP (Enterprise Resource Planning) system.
The ERP system stores environmental and socioeconomic data and transmits it to the three DYCTA modules through a business intelligence (BI) system.
The three dashboards featured in DYCTA provide a real-time overview of the sustainability, environmental, social, and economic indicators of industrial operations.

Stakeholders are given accurate, documented references on the progress of the sustainability KPIs in relation to the Agenda 2030 objectives. As a result, they have a clear picture of the action taken by the company, as a concrete part of this international roadmap, whose strong ethical values we uphold.
FORTUNE: activities carried out.
Results achieved.
Focus on ACCESSIBLE sustainability

• **People** and **consumers** are particularly attentive to socioenvironmental issues.

• **Manufacturing** and **distribution firms**, as well as **public authorities** are increasingly called upon to **justify their choices** to stakeholders, above all where sustainability is concerned.

• With the **LIFE Force of the Future project**, **Gresmalt** and its **partners** are firmly committed to working towards sustainable development, concentrating in particular on **reducing the environmental impact of production processes** and products.

• Our goal is to create **environmentally compatible products** that are accessible to a wide range of consumers.

• This orientation is strengthened by the convictions of the management and is summed up perfectly in our motto “**THE WORLD IS MY HOME**”.
Real-world application.
The G3NIUS range.
Innovations in materials: ECODESIGN by DYCTA

• Manufacturers and distributors today have a duty to design and supply **products** that are **efficient** and **suitable** but have a **lower environmental and socioeconomic impact** than existing products.

• **DYCTA** allows us to **compare the environmental and socioeconomic parameters** of a “conventional” 9mm-thick ceramic tile and an “innovative” 7.4mm thick version.

• **ECODESIGN** is the term that has been coined for this analysis process, which is a **new and highly relevant design method**.

• This **innovative method** has led to the creation of **G3NIUS** 7.4mm, an environmentally conscious product line with a lower environmental and socioeconomic impact than conventional products.

• This result was obtained in the **LIFE Force of the Future** project by developing a ceramic mixture containing at least **50% low-environmental-impact raw materials** and **15% recycled resources**.

The **G3NIUS** brand offers **genuine advantages** for users, which are expressed perfectly in the tagline “**smarter, greener, better**”. 
#1 SMARTER
Practicality paired with Italian style. Made entirely in Italy.

#2 GREENER
A porcelain stoneware that is kinder to the environment.

#3 BETTER
Strong and durable. Compliant with European standard EN 14411.
Product innovations: SMART ADVANTAGES

G3NIUS

BY GRESMALT

• G3NIUS The name is instantly associated with added value because it contains a promise, a genuine commitment by those promoting it.

• The promise is to provide customers with a “special” ceramic product that makes a significant contribution to making homes better and safer places to live.

#1 SMARTER PRACTICALITY AND ALL-ITALIAN PRODUCTS

On-trend Italian design
Lightweight and easy to handle
Easy to cut and drill
Quick and economical installation
Environmentally sustainable porcelain stoneware

#2 GREENER
ECO-FRIENDLY PRODUCTS

- 22% lower impact throughout the product’s life cycle
- 21% lower consumption of raw materials
- 20% lower CO₂ emissions
- Outstanding sustainable packaging solutions:
  - 100% recycled cardboard
  - 100% black plant-based ink
  - 100% recyclable strapping and shrink wrap
  - 100% certified reusable EPAL
- Greater logistic efficiency:
  less impact on transport due to 22% more square metres carriable on the same vehicle

#3 BETTER
PERFORMANCE COMPLIANCE

- Fully compliant with European standard EN 14411
- Suitable for residential and light commercial use
- Sturdy and non-deforming
- Safe and healthy
- Fireproof
Through the **G3nius** brand, **LIFE Force of the Future** has improved communication transparency using **digital tools**: website accessible via QR CODE on boxes and on merchandise.
Packaging example

MORE INFO
G3NIUS
Watch the video and download the catalogue

G3NIUS
Smart. Greener. Better.
FLORA
the first G3NIUS collection
G3NIUS
BY GRESMALT

Design  Sustainability  Performance  Affordable cost

All in the same product.