avanzare

inventing the future

PRODUCER OF HIGH PERFORMING ADDITIVES

GENERAL BROCHURE

What we do, 2-3

Graphene, 4-5

Antistatic/ESD additives, 6-7

Flame retardant/Fire resistant solutions, 8-9

Anti-bacterial additives, 10-11

avanWATER hydrophobic, 12

UV/IR filter, 13

Electrically & Magnetically detectable solutions, 14

Chemical tracer (anti-counterfeiting), 15

Quality certificates, accreditations & awards, 16-17

R&D projects, 18-19

What we do

Founded in 2004, in **avanzare** we provide our customers with high-performance advanced materials. This company is specialized in the development, production and commercialisation of specialty additives for different applications, mainly plastics, rubber, and resin with international presence across different industries: automotive, aeronautics, safety equipment, footwear, painting, building, wire and cable sector, fabrics, packaging and paper, and more. We have extensive experience in the scope of functionalities such as antistatic, electrical conductivity, thermal dissipation, flame retardant/fire resistance, anti-bacterial, hydrophobic, etc.

FLAME-RETARDANT FIRE-RESISTANT

ELECTRICAL CONDUCTIVITY

ESD/ANTISTATIC

THERMAL DISSIPATION

avanzare´s solutions and specialty performance additives are produced to improve or bring new functionalities to different materials. Our capabilities and 10.000 m2 of full equipment production plant allow us to act in a wide range of possibilities, allowing us to have flexibility in dealing with our clients.

Everything we do we believe in inventing the future. The way we invent the future is by developing and carrying out nanotech R&D projects and carefully testing and certifying the final products in a sophisticated and accredited laboratory and as a result to make our materials effortless for our customers. In this way, we provide our customers with high-performance advanced materials and customized solutions.

Ensatec, a European ILAC-ENAC accredited laboratory, became part of **avanzare**'s group in 2014. It is specialized in testing, certification and calibration services with a fire testing division antimicrobial lab mechanical's characterizations and capacity to issue a wide range of certifications.

avanzare
graphene

At **avanzare** we have extensive expertise in 2D materials research and production, above 10 years now, and we are specialized in the production of different bulk graphene and graphene/graphite nanoplatelets grades, for both industrial and R&D purposes.

Graphene

The incorporation of graphene as a composite additive in (rubbers, resins, plastics, etc) has allowed to generate materials with exceptional properties, capable of generating materials valid for applications that were not possible before. The main technical characteristics that can be improved are:

- Increased ability to **dissipate heat** in some materials **up to 20 times.**
- Very high **electrical conductivity.**
- **As a nucleating agent, increased mechanical properties.**
- **Flame retardant additive.**

Our lines **avan**CONDUCTIVE, **avan**THERMAL CONDUCTIVE or **avan**GRP are the base of all of our products.

Our grades range from graphene oxide grades, along with partially reduced and highly reduced graphene oxide grades graphene nanoplatellets. Dispersions and masterbatches are also available upon customer request.

BLANK TREATED

T=0

T=1H INTENSIVE USE

For more information about our graphene materials
please ask for our graphene brochure or visit our webpage: www.graphene.avanzare.es

ESD/Antistatic

Resins and plastics are intrinsically insulating materials; materials with conductive or antistatic performance features are increasingly demanded both for production and protection purposes.

Our antistatic/ESD additives impart certain conductivity in host materials so that they can release static electricity effectively in a controlled way and thus prevent problems caused by static electricity and uncontrolled electrostatic discharges, such as electric shocks, destruction of electronic circuits, sparks, appliance malfunctions, dust adhesion, etc.

avanSTATIC, **avan**NATUR, **avan**ION and **avan**DISS antistatic additives ranges share the following features:

- Static dissipative and ESD levels **permanent performance**
- **Colourless** and colourable
- Low dosage required
- Minimal effect to host material properties
- **Non-migratory**
- Food contact grades available
- Solid, liquid, pellet MB formats available

Product specifically developed to ensure compatibility with the host matrix

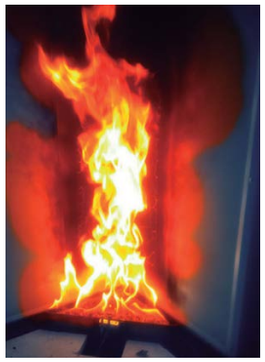
- Rubber
- EVA
- Polyurethanes
- Themoplastics: TPU, PVC, PA, PP, PE, HIPS…
- Thermosets: epoxy, polyurea…
- Composites
- Fabrics

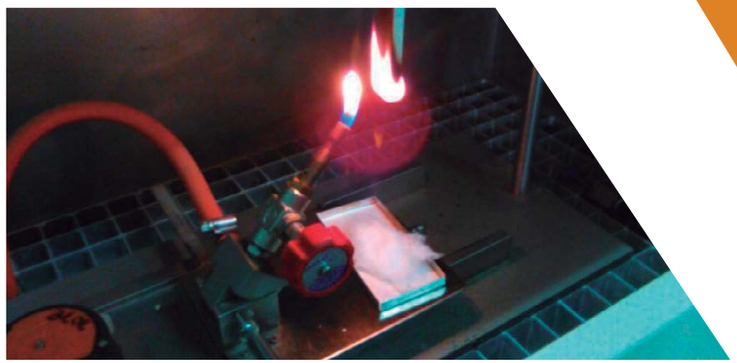
Tailor made solutions

For more information about our ESD/antistatic grades please ask for our antistatic additives brochure or visit our webpage: www.avanzarematerials.com

Flame retardant Fire resistant

avanzare develops and produces additives and mixtures for various requirements/needs based on non-halogenated and antimony oxide free compounds.





Our knowledge in additives, the synergies generated between them and the possibilities of testing in real conditions, causes me to move forward be the partner devised in achievement and the development of the most restrictive and demanding projects in the industry. Materials such as resins, foams, resins, or wood are frequent in our portfolios solving applications in, construction, injection, industrial….

Our laboratory division ENSATEC, as an accredited laboratory at European level, allows analysis of a material or system´s behavior against the fire. Ensatec has two labs:

Reaction to the fire lab.

- **NON- combustibility test**
- **Single burning item test (SBI)**
- **Ignitability test**
- **Radiant panel Test**
- **Determination of the gross heat of combustion**
- **UL-94**

Resistance to the fire lab.

- **Fire resistance test for doors fire resistance test for non-loadbearing elements**
- **Fire resistance test for building hardware**

CE NB 1668

certifire

ilac-MRA ENAC ENSAYOS Nº 288 / LE 634

for more information please contact info@ensatec.com or visit: www.ensatec.com

Anti-bacterial

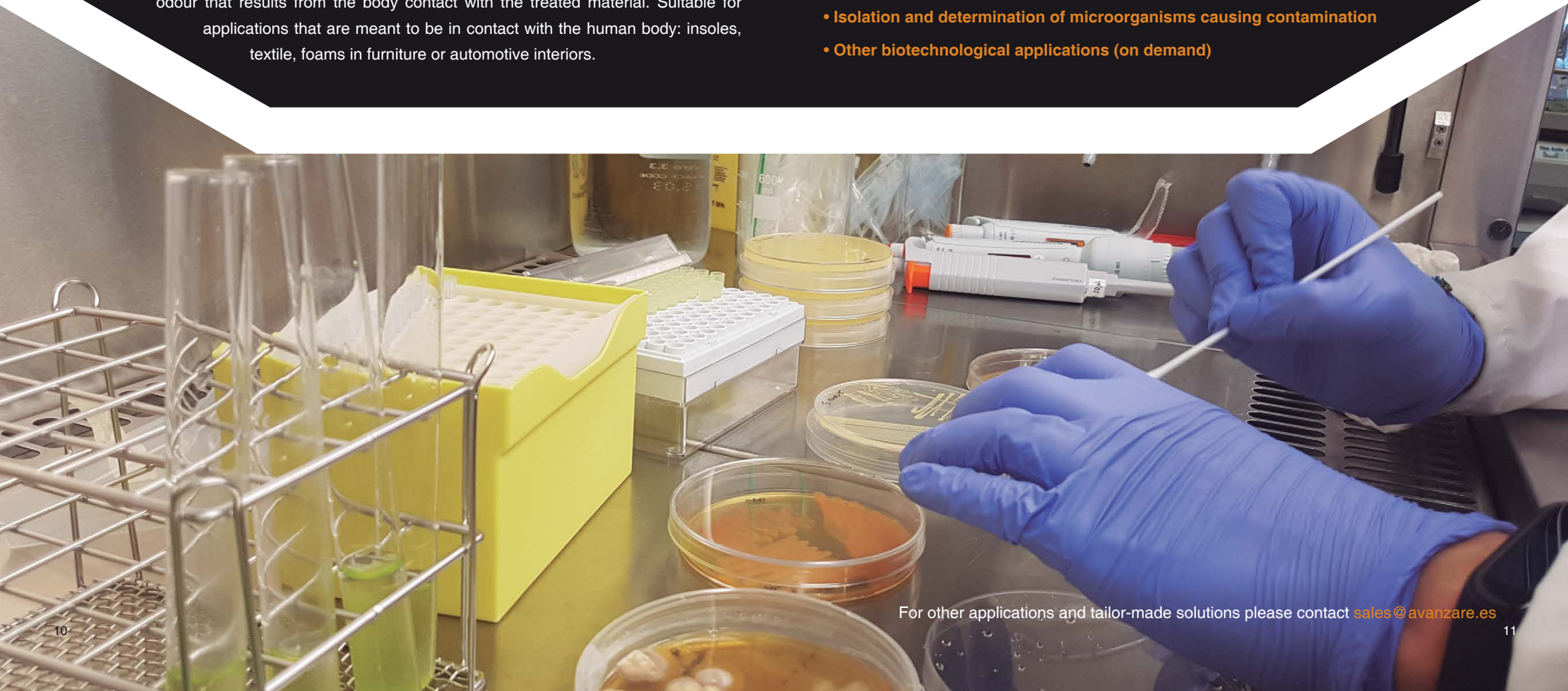
avanZnO BAC is an efficient anti-bacterial product line at controlling and removing microorganisms. It is specially designed to eliminate bacteria and fungi in every type of matrices and materials even when coated.

avanZnO BAC products exhibit an excellent cost-effectiveness since extremely low doses are required. They are suitable to be applied in clear or any colour materials and available in solid, liquid and masterbatch. PU foams, rubber, composites, concrete, fabrics, paper, cardboard, wood. All our products are in accordance with European regulation (UE) 528/2012.

avanzareANTI-ODOUR (additional optional feature), is designed to eliminate the odour that results from the body contact with the treated material. Suitable for applications that are meant to be in contact with the human body: insoles, textile, foams in furniture or automotive interiors.

avanzare has a fully equipped laboratory of microbiology that allows us to analyze and test each of our products, increasing the quality criteria and comparing their efficiency and effectiveness against a large number of different microorganisms and tests.

- **Standard Zone of Inhibition Test (Kirby Bauer Qualitative Test for growth Inhibition)**
- **Quantitative method for the determination of minimum inhibitory concentration of microbial growth**
- **Test for antimicrobial activity according Japanese Industrial Standard (JIS Z 2801)**
- **Measurement of antibacterial activity on plastics (ISO 22196:2011)**
- **Isolation and determination of microorganisms causing contamination**
- **Other biotechnological applications (on demand)**



For other applications and tailor-made solutions please contact sales@avanzare.es

AvanWATER

avanWATER solutions enable to generate lipophobic and hydrophobic coating.

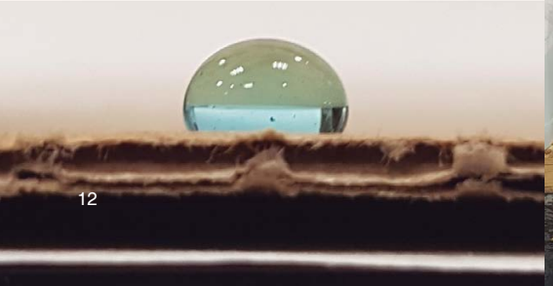
avanWATER PAPER is an additive specially developed for use as a coating on paper, cardboard and wood that provides a completely extra protection to these materials against water, moisture, etc.

The product allows to reduce the danger of collapse in cardboard boxes, protecting the interior product on trips that can be attacked by water.

- **40 % increased resistance to water and oils.**
- **Permits lower thickness of cardboard, cost effective.**
- **Recyclable**

Developed
to be applied in:

- **Paper**
- **Cardboard**
- **Wood**
- **Fabric**
- **Cotton**



UV Filter

Our laboratory equipped with modern aging and test chambers such as QUV-A / B spray, Q-sun xenon test chamber or UV spectrophotometer allows to analyze and compare the additives produced optimizing their synergistic effects in search of the most efficient protection against to the sun and other radiant sources.

UV FILTER based on nanoparticles and organic molecules used in resin, paints, varnish etc are the base of our technology.

Ethernum products are the line or products that **avanzare** commercialize for that application.

For other applications and tailor-made solutions please contact sales@avanzare.es

Electrically & Magnetically detectable solutions

The increasingly abundant use of plastics and its difficult detectability when these pieces fall into food during their industrial preparation, causes these contaminations to reach the consumer with the consequent problems. The contribution of **avan**SAFE detector eliminates these problems in the producers of all types of products.

avanSAFE detector is an additive generated by **avanzare** to impart detectability, by metallic, magnetic and X-ray systems, to different plastics, resin, and rubbers in food contact application.

avanSAFE DETECT is a fully colorize solution valid for both FDA and EU regulation 10/2011

Chemical tracer

Chemical trademark (anti-counterfeiting)

Unique solutions of tailor-made additives based on organometallic compounds for materials differentiation/identification, which allow avoiding illegitimate claims. **avanzare** offers a unique tailor-made additive specific to any required material.

Each of these unique additives are neither reused nor subject to be copied. Based on organometallic compounds, these additives allow identifying and differentiating the treated material from any other, even when included in another formulation or transformed into a finished good.

Main advantages of **avanzare** chemical trademark (unique tracer) solutions for materials:

- Unique tracer solutions of your materials
- Illegitimate claims regarding material origin are avoided
- Disincentive and entry barrier for unsafe raw materials suppliers
- Very low dosage required and cost repercussion
- Tailor-made in terms of design and security levels preferences

Quality certificates, acreditations
and association memberships of avanzare group:

avanzare
inventing the future

ensatec

ISO 9001
BUREAU VERITAS
Certification
ES068232-2

AEiRIOJA
CLUSTER DE AUTOMOCIÓN

asoma
asociación-española-fabricantes
ventanas de madera

AELAF
ASOCIACIÓN ESPAÑOLA DE LABORATORIOS DE FUEGO

ilac-MRA ENAC
ENSAYOS

CE
NB 1668

asefave
Asociación Española de Fabricantes de Fachadas Ligeras y Ventanas

avanzare has been nationally and internationally awarded

NANOAWARD: Best Product Award

PREMIO EMPRENDEDOR XXI 2008

Nanotech Briefs Nano50
AWARDING THE BEST IN SMALL TECH

2019 EDICIÓN PREMIO PYME DEL AÑO
Cámara
Santander

avanzare
inventing the future

As part of **avanzare**'s continuous search for improving and broadening its product range, it allocates many of its resources in Research and Development projects.

European Commission | Horizon 2020 European Union funding for Research & Innovation

Graphene Core1 & Graphene Core2 is supported by European Community's Horizon 2020 Framework Programme (H2020-Adhoc-2014-20) under Grant Agreement n° 696656 and under Grant Agreement nº 785219. These projects are the second and third in the series of EC-financed parts of the Graphene Flagship. They are funded by Programme for Research and Technological Development.
01/04/2016- 31/03/2020

European Commission | Horizon 2020 European Union funding for Research & Innovation

M3DLoC aims at the employment of multi-material 3D printing technologies for the large-scale fabrication of microfluidic MEMS for lab-on-a-chip and sensing applications.. 01/01/2018 – 31/12/2021, http://www.m3dloc.eu ; Supported by European Community's Horizon 2020 Framework Programme Grant Agreement no. 760662

European Commission | Horizon 2020 European Union funding for Research & Innovation

I-ThERM

I-Therm Investigate, Design, Build And Demonstrate Innovative Plug And Play Waste Heat Recovery Solutions To Facilitate Optimum Utilisation Of Energy In Selected Applications With High Replicability And Energy Recovery Potential In The Temperature Range 700C – 10000C. It is funded by Programme for Research and Technological Development. 01/10/2015- 31/03/2020 ;http://www.itherm-project.eu/
I-Therm is supported by European Community's Horizon 2020 Framework Programme (H2020-EE-2015-1-PPP) under Grant Agreement n° 680599.

European Commission | Horizon 2020 European Union funding for Research & Innovation

PROCETS main target is to deliver protective coatings covering a wide range of applications such as automotive, aerospace, metal-working, oil and gas and cutting tools industries via thermal spray and electroplating methods by utilizing more environmental friendly materials, compared to the currently used. It is funded by Programme for Research and Technological Development. 01/01/2016 – 30/06/2019; http://cordis.europa.eu/project/rcn/198815en.html; Procets is supported by European Community's Horizon 2020 Framework Programme (H2020-NMP-2014-2015/H2020-NMP-PILOTS-2015) under Grant Agreement n° 686135.

European Commission | Horizon 2020 European Union funding for Research & Innovation

FreeCr6Plat

Chrome plating without toxic Cr(VI). The **freeCr6plat** Project is the cost-effective industrialisation of a free of chromium (VI) plastic plating system for direct metallisation of a wide variety of plastic surfaces. 01/09/2018 – 31/08/2020

SME Instrument pase 2, 829535 freeCr6plat

The Eurostars Programme is powered by EUREKA and the European Community

eurostars™

TEX4SUN: Next generation of UV resistant polyester yarns.
It aims to obtain UV stabilized polyester (PET) yarns with higher durability than yarns used in outdoor and automotive applications, which lose its mechanical properties upon 1500 hours of exposure to UV-light.01/11/2017- 31/10/2019
It is funded by EUROSTARS E! 11317-TEX4SUN

G-COOL: New coolants for high-performance engines. The consortium wants to improve the heat exchange capacity in cooling systems for combustion engines by using
nanofluids. 01/11/2018- 31/10/2020; It is funded by EUROSTARS E! 12375-G-COOL

TEC-ENOLOGY: Nuevos sistemas tecnológicos y biotecnológicos aplicados para el control enológico. 01/01/2018 – 30/03/2020

LA RIOJA CRECE CON EUROPA
Programa Operativo FEDER de La Rioja 2014-2020
UNIÓN EUROPEA
Fondo Europeo de Desarrollo Regional

Gobierno de La Rioja
www.larioja.org
ader
Agencia de Desarrollo Económico de La Rioja

QUARTZ-FILTER: Nuevos filtros solares para cuarzo sintético de exterior.01/01/2018 – 31/03/2020

LA RIOJA CRECE CON EUROPA
Programa Operativo FEDER de La Rioja 2014-2020
UNIÓN EUROPEA
Fondo Europeo de Desarrollo Regional

Gobierno de La Rioja
www.larioja.org
ader
Agencia de Desarrollo Económico de La Rioja

GEIMA: Nuevas poliolefinas para aplicaciones de exterior con mejor resistencia UV y comportamiento mecánico. 01/07/2018 – 31/03/2020

LA RIOJA CRECE CON EUROPA
Programa Operativo FEDER de La Rioja 2014-2020
UNIÓN EUROPEA
Fondo Europeo de Desarrollo Regional

Gobierno de La Rioja
www.larioja.org
ader
Agencia de Desarrollo Económico de La Rioja

avanzare

inventing the future

(Headquarter)
Calle Las Encinillas 18-20
26370 Navarrete (La Rioja) Spain

Tel: +34 941 587 027
sales@avanzare.es
www.avanzarematerials.com

avanzare
Innovación Tecnológica, S.L.
(Headquarter)
Calle Las Encinillas 18-20
26370 Navarrete (La Rioja) Spain

Tel: +34 941 587 027
sales@avanzare.es
www.avanzarematerials.com