



High-tech additives for the road industry

Progetti e prodotti eco-sostenibili per il settore stradale



UNI EN ISO 9001:2015  
UNI EN ISO 14001:2015



## Press Kit



July 2022

## ABOUT US

Iterchimica S.p.A. is an Italian firm founded in 1967 by Gabriele Giannattasio and which now operates in over 90 countries providing additives for asphalt. The company produces and distributes products that enhance both asphalt performance and the laying of road surfaces in order to increase safety, environmental sustainability, and efficiency. Iterchimica collaborates with contracting authorities, construction companies, general contractors, and design studios in roadway planning, construction, and maintenance and in the provision of products and technical support. Iterchimica labs have been certified by the Italian Ministry of Education and Research, and the company maintains ongoing partnerships with the leading Italian and international universities with specializations in paving and chemical research.

The company is certified UNI EN ISO 9001:2015 for Quality Management System and UNI EN ISO 14001:2015 for Environmental Management System.

Iterchimica S.p.A. is a founding member of the Italian association for the asphalt industry, SITEB.

An example of excellence in our industry niche, Iterchimica S.p.A. unites the technological and product experience of the company's founder, Gabriele Giannattasio, with the managerial and entrepreneurial skills of his children. Since June 2015, the company has been supported by the experience of investor-manager Vito Gamberale, a shareholder and the company's chairman, as well as of the company's CEO, Federica Giannattasio. Alessandro Giannattasio is Vice President and Head of Foreign Markets Development and Mariella Giannattasio holds the position of CFO/CEO.

## BRIEF HISTORY

### **2015–2022: New organization and five-year development plan. Development of a new graphene-enhanced additive and other patents**

In 2015, the company reorganizes, including the arrival of Gamberale as a shareholder and chairman of the board of directors. With the appointment of Federica Giannattasio as the new CEO, a new five-year plan of growth and development begins, and a new organizational model, overseen by a supervisory body, and a Code of Ethics are adopted.

In 2017 the patent for a graphene-based supermodifier named Gipave® is filed. This is the result of a six-year research in collaboration with Directa Plus, the University of Milan-Bicocca and G.Eco. The product also contains a type of specifically selected hard plastics. Target of the research project: the improvement of the physical-mechanical behaviour of asphalt pavements subjected to high traffic such as highways, airports, interports, ports, etc.

In September 2018, in collaboration with Metropolitan City of Rome and the University of Rome La Sapienza, Iterchimica tests the first section of road in the world with asphalt containing the graphene-enhanced supermodifier which, according to the first results, allows to improve the lifespan of the road by more than 250%. In 2019 the patented technology is tested on various road sections near Milan, Bergamo, in Oxfordshire (UK), at the intercontinental airport of Rome-Fiumicino and at the airport of Cagliari-Elmas.

In 2019, Iterchimica files the patent for Ecopave, a process consisting in the production of an additive for asphalt concrete with high mechanical performances.

In the first half of 2020 Gipave® is also tested near Laimburg (BZ) and in Dartford (Kent - UK). In July 2020 Gipave was used for the reconstruction of the asphalt pavement of the new San Giorgio Bridge in Genoa, inaugurated on August 3<sup>rd</sup>.

In 2021 Iterchimica files the patent for Micro Gipave® which consists in a multifunctional bituminous thin-layer with high mechanical performances.

In late 2021, the products Gipave® and Superplast Eco obtain the certification “Second Life Plastic” This registered mark is a system of environmental product certification that identifies the materials and products obtained from the enhancement of plastic waste resulting from separate waste collection and those obtained from industrial waste. Both products include an amount of recycled plastic equal to 100% for Superplast Eco and 90% for Gipave®.

The latest product formulated and developed by Iterchimica's R&D Researchers is *CHS anti-ageing*, a new solution that slows down the ageing process of bitumen caused by long exposure to atmospheric agents and thermal changes. Thanks to the use of *CHS anti-ageing*, by slowing down the oxidation processes, it is possible to reduce the effects of time, extend the pavement's service life and prevent the typical pavement distresses such as raveling, cracking and potholes formation.

In July 2022, with the aim to enforce a proper circular economy, A2A uses Gipave® for the resurfacing of 4000 square metres in the internal transit areas of its waste-to-energy plant, located in Brescia.

### **2010–2014: Internationalization and university partnerships**

With the help of partnerships with numerous universities and research centers, advanced products are developed that are now a part of Iterchimica's technology portfolio, including anti-smog and anti-freeze additives and fiber compounds and polymers that improve a pavement's performance and durability.

Despite the crisis that hit the road-construction industry, revenues continue increasing to consolidate at current levels, both in Italy and abroad.

### **2000–2010: Research and development with universities**

Launch of Project Polago in collaboration with the University of Milan-Bicocca for the creation of an “active” rubber powder to be used in paving. Launch of numerous, ongoing partnerships with the leading Italian universities and the start of a commercial presence abroad.

### **1991–2000: First additives for reclaimed asphalt**

New systems for pavement reclamation and for adherence improvement.

Partnerships with Società Autostrade, Pavimental, and public bodies throughout Italy.

### **1990: Research and development with Enichem**

Major contract with Enichem for the study and creation of bitumen additives, which were in their early stages at the time and have become a commonly used technology.

### **1980–1990: Sports facilities, from packed earth/clay to performance asphalt**

Invention of synthetics to replace the packed earth or clay of sports facilities with performance asphalt using synthetic resins.

Construction of complete stadiums in Cagliari, Calenzano (FI), Chieri (TO), Torino (Rome), and elsewhere for 150 athletics tracks throughout Italy and 300 tennis facilities, gyms, and other sports facilities.

### **1970–1980: Ongoing development of new solutions**

Iterchimica invents “buffer” joints, concrete protection for viaducts, and painting and injection technologies.

Products used by ANAS, local governments, Società Autostrade, Pavimental, and Enel.

## 1967–1970: Invention of new technologies

Iterchimica invents cold-mix asphalt for road maintenance and develops new emulsifiers and anti-stripping agents. These products gain rapid popularity within the industry throughout Italy.

## 1967: Company foundation

Iterchimica begins operations in Saronno, specializing in the production of additives to extend the life of road surfaces given the constant rise in traffic, while also increasing maintenance standards. Milestones: the laboratory and the assistance of clients on worksite.

## NEW TECHNOLOGIES TO GIVE BETTER ROADS TO THE COMMUNITY

Although it may not be apparent to the untrained eye, different types of asphalt and pavement in general can have very different characteristics and levels of performance. Iterchimica however, is one of the world's most experienced, most capable companies in this field and is able to offer a wide range of solutions to every need.

With the help of Iterchimica's asphalt additives, it is now possible to achieve optimal performance levels based on the characteristics of the bitumen and aggregates used and depending on the conditions under which the pavement is to be used.

These additives can be divided into a number of categories, the most important of which are as follows:

- **Anti-stripping agents:** these are complex chemicals that ensure an ideal bond between bitumen and aggregate. They combat the stripping action of water and increase bitumen's resistance to water and to cyclical and mechanical stresses. They increase the durability and resistance of the asphalt and extend the amount of time that can pass between the production and laying of the asphalt, thereby facilitating the rolling process.
- **Rejuvenators:** these complex chemicals make it possible to reclaim and reuse old asphalt. Rejuvenators alter the chemical and physical structure of the old asphalt and reduce the rigidity of the new pavement produced with this milled asphalt. They also improve the bond between bitumen and aggregate, enhance water resistance, and make it easier to work with the reclaimed asphalt.
- **Flux oils:** these additives lower the viscosity of bitumen to extend the amount of time that can be taken when laying the pavement.
- **Fibres:** these are used as stabilizers and/or thickeners in improved paving in which high levels of bitumen are required. They can be natural, mineral, or synthetic and are provided with the appropriate dosing equipment. They strengthen and thicken the bitumen and are used to produce permeable asphalt and/or for roads with heavy traffic and for heavy trucks, as well as for airport runways.
- **Polymers:** these improve the mechanical properties and performance of the asphalt and significantly reduce surface deformations under high temperatures, thereby increasing the life of the road surface.
- **Gipave, graphene-enhanced polymeric supermodifier:** the latest innovation developed in Iterchimica's laboratories is a polymeric compound that contains graphene and a type of specifically selected hard plastics. The specific patented method allows to select carefully only those plastics that are adequate for their use in the asphalt pavement supermodifier. The new technology allows to enhance the performances of asphalt pavements, making them more resistant to fatigue and thermal excursions. The result is an asphalt pavement that lasts more than twice as long.

In addition to additives that modify the characteristics of asphalt, Iterchimica provides solutions for adding colour to paved surfaces (either with surface coatings or colorants and/or resins that change the colour of the paving mix itself), as well as anti-smog products that reduce pollutants or Iterchimica's Winterpave®, an anti-freeze product that inhibits the formation of ice on the road surface.

## **GREEN PRODUCTS AND TECHNOLOGIES**

Iterchimica has always placed particular emphasis on developing technologies and processes with a low environmental impact. This specific know-how, which we have developed over time, has made us a world leader in our industry in “green” innovation.

The great “environmental friendliness” of Iterchimica’s products can be seen in many aspects.

## **RECLAIMING MATERIALS AND EXTEND USEFUL LIFE**

1. We have products that reduce environmental impact (and costs) in that they allow for:
  - a. Excellent percentages of recycled asphalt (up to 100%) without sacrificing on performance levels
  - b. The laying of thinner pavements without reducing performance, which reduces the amount of bitumen and aggregate used, thereby reducing the need for material transport
  - c. Extension of the service life of asphalt pavements, thereby reducing the impact of ordinary and extraordinary maintenance work (for example, with Gipave it is possible to reduce CO<sub>2</sub>eq into the atmosphere up to 70%)
  - d. The recycling, through a patented process, of a specific type of hard plastics which are specifically selected and adequate for their use in the Gipave® supermodifier (about 20 tons/km of recycled hard plastic).

## **LOWERING PAVEMENT TEMPERATURES TO REDUCE EMISSIONS AND UNPLEASANT ODOURS**

2. We also have products that reduce the environmental impact of the actual paving process, including:
  - a. additives that make it possible to produce and lay the asphalt at lower temperatures (at around 120°C, down from the usual 170°C). This results in a significant energy savings, a reduction in fumes, and the ability to serve areas farther from an asphalt production facility. An asphalt mix cools during transport, but when it is possible to lay the asphalt at lower temperatures (as low as 100°C), it is also possible to transport the asphalt farther from the production plant;
  - b. additives that reduce unpleasant odours during the laying process. Although the process is not toxic and poses no risk to the health of people in the area, the unpleasant odours produced by hot bitumen are a frequent source of complaints. Iterchimica has developed additives that resolve this problem by inhibiting the agents that produce such odours.

## **OTHER SPECIAL ADDITIVES THAT REDUCE ENVIRONMENTAL IMPACT**

3. There are also products that reduce the environmental impact because of intrinsic properties:
  - a. Anti-smog: Iterchimica has developed a substance that can be applied to the road surface to catalyze the most hazardous pollutants found in vehicle emissions (especially NO<sub>x</sub>), thereby reducing their impact and lowering pollution in the atmosphere;
  - b. Anti-freeze: This substance is added directly to the asphalt mix to inhibit the formation of ice on the road surface (down to about -5°C), thereby significantly increasing road safety and reducing the need for salt and gravel on the road;
  - c. Reduction of traffic noise and vibration: Itersilens is a product that significantly reduces traffic noise and related vibrations. The rubber powder used in this product is also ecological in that it is derived from reclaimed tires.

## **BENEFITS OF ITERCHIMICA ADDITIVES**

Using Iterchimica additives to construct new infrastructures results in significant cost savings both during construction and throughout the life of the infrastructure, given that these new technologies lead to a considerable increase in pavement life while also reducing the frequency and scope of maintenance.

The benefit of using Iterchimica additives over standard products comes in the ability to custom design the additive-aggregate mix for each type of climate, context, and traffic to achieve the precise performance levels required for the project.

Thanks to the scientific and technical know-how that we have acquired over nearly five decades of doing business and to the experience of our technical staff, including with highly specific applications (e.g. airports, extreme climates, atypical materials and contexts, etc.), Iterchimica is able to provide consulting services and construction support. Our in-house research and development centres are able to find the most technically appropriate and cost-effective solution for the task at hand.

## **RESEARCH AND INNOVATION**

Over the years, Iterchimica has continued investing in research and innovation (on average the 5% of its turnover), so that we now have four labs working hand in hand with the production plants that are essential to our organization and set us apart in the global marketplace. These labs include a Chemistry Lab, a Bitumen Lab, an Emulsions Lab, and a Materials Lab (for aggregates), in which 10 researchers and technicians work both on developing new products and on conducting product testing and testing to support our consulting efforts.

The equipment used in these labs is worthy of some of the world's most innovative research centres and represents a body of experience gained throughout the world. By providing our products in over 90 nations, Iterchimica is in constant contact with a variety measurement techniques, technical specifications, and performance needs, and we deal with a wide range of bitumen and aggregates. As a result, we need to be able to identify, analyse, and measure chemical make-up and pavement performance in order to meet all the various needs we encounter. For example, we were one of the first firms in Europe to have a series of instruments designed to determine the performance grade of bitumen (a typically American methodology), which is necessary in order to know all there is to know about the various types of bitumen and to make the best use of the additives needed to achieve the performance levels desired.

## **COLLABORATIONS WITH UNIVERSITIES**

For many years now, Iterchimica has maintained close relations with leading Italian universities, both collaborating on scientific cases and funding graduate research into paving technologies. Of particular note are our partnerships with Politecnico di Milano, the University of Milan-Bicocca, La Sapienza University in Rome, and the Universities of Palermo, Bergamo, Parma, and Padua, as well as with organizations abroad, such as the Royal Institute of Technology (RMIT-Australia) and the Universidad Politécnica de Madrid (Spain). Iterchimica also turns to these institutes for validation and control activities and for specific case studies. Over the years, this has enabled us to amass a significant number of international certifications and authorizations.

## **A BRIEF ITERCHIMICA CASE HISTORY**

### **Qatar, Doha Airport**

The project at Qatar's Doha Airport is one of Iterchimica's most significant. With a proprietary system on site, we were able to lay the tarmac for the Doha airport in Qatar's challenging climate and given the other particular characteristics of the area.

Suisio was responsible for the local materials (bitumen and aggregates), for inventing and testing the various additives, and for fine-tuning the product (impregnating emulsions) that made it possible to bind the runway pavement to the underlying terrain.

### **Algeria, National Highway 1, widening of Lot 03**

Iterchimica was responsible for the entire process of calibration, testing, and fine-tuning the additives (agents and polymers) that made it possible to lay the asphalt needed to double the width of National Highway 1 for a 24km stretch from Ksar El Boukhari to Boughzoul, while ensuring excellent mechanical performance in a desert setting in which daytime temperatures are high and the difference between daytime and nighttime temperatures is great.

### **Cagliari, Poetto promenade: new coastal bike path alongside the lane for runners**

The pavement was made using a two-component resin designed by Iterchimica and mixed at the Suisio plant in order to achieve high levels of performance in terms of look, ecology, and durability thanks to an ideal union of technology and nature.

### **Lainate (MI), anti-smog parking lot for McDonald's**

The pavement for the parking lot features an eco-active, solvent-free asphalt with the Itertio2 Green additive (titanium dioxide). When sunlight comes into contact with this additive, it triggers a process that reduces pollutants in a manner similar to photosynthesis, making it possible to transform pavement into a sort of anti-smog reactor with the help of solar energy. This photocatalytic process absorbs pollutants to reduce organic micro-pollutants and nitrous oxides in the air for a significant reduction in air pollution.

### **Extraordinary Maintenance on the Pavia-Bereguardo**

Durability, safety, environmental protection and high performance: these are the peculiarities of the road pavement package adopted for the upgrading of the Pavia-Bereguardo motorway junction, a project on which a team formed by Iterchimica, the concession holder Milano Serravalle-Milano Tangenziali Spa, and the two executing companies Itinera and Caffù have collaborated.

The exemplary collaboration between the several operators involved has, in fact, enabled the requalification of the 9 km of road by using innovative materials and technical implementation methods that have allowed, on the one hand, to significantly reduce the environmental impact of the works compared to the usual interventions, on the other hand to guarantee very high final performances, by reducing the number of layers and using the whole milled material on site.

### **San Giorgio Bridge, Genoa**

To date, one of the most important application of Gipave® is undoubtedly the San Giorgio Bridge in Genoa, E25 Highway. Inaugurated on August 3rd, 2020, the new bridge was designed by Renzo Piano (Studio Renzo Piano Building Workshop), who donated his project to the city of Genoa. The project was developed by Italferr (Gruppo FS Italiane) and carried out by the PerGenova Consortium. The asphalt pavement was constructed also with Gipave®. Donated to the city of Genoa, Gipave® was used for the wearing course (4 cm) of the new asphalt pavement. The new technology allows to extend the asphalt pavement service life and to recycle a specific type of technically selected hard plastics. All this makes it possible to considerably minimize the environmental impact by reducing the need for maintenance interventions over time and, therefore, to ensure greater safety and durability.

## **Tertenia-San Priamo (Sardinia), Thin-layer with Gipave®**

With the aim of avoiding the demolition of the binder layer (which, according to the post-production tests, presented some problems related to the voids content) of a stretch of asphalt pavement (1st Lot – 1st Section of the Tertenia-San Priamo road), Iterchimica has managed to propose and develop an innovative and sustainable solution, also thanks to the collaboration with the University of Cagliari, ANAS, the company Aurelio Porcu & Figli and the contracting company De Sanctis Costruzioni S.p.A. The new solution consists of a 1 cm bituminous thin-layer developed to absorb and to better distribute loads to the bottom layers, reducing deformation not only of the binder layer but of the whole pavement. Besides ensuring mechanical performances, as well as durability and reliability, the thin-layer has made it possible to completely seal the binder layer, improving the draining asphalt impermeability of the laying surface. Not only had the adopted solution avoided the demolition of the pavement layer and the related raw material consumption, but it also allowed to ensure, or rather improve, the service life and the safety of the road surface.

## **ITERCHIMICA IN BRIEF**

### **ITALIAN LEADER IN THE PRODUCTION AND DEVELOPMENT OF ASPHALT ADDITIVES**

#### COMPANY HISTORY

- ✓ Founded in 1967 by Gabriele Giannattasio based on an idea that proved successful;
- ✓ In the 1990s, his children, Alessandro, Mariella, and Federica, joined the management team;
- ✓ Proprietary know-how developed by three, cutting-edge science labs dedicated to researching and developing new products;
- ✓ Ongoing research in close collaboration with leading Italian universities, which help to certify product performance and efficiency;
- ✓ Since 1996, Iterchimica has opened offices in Romania, Venezuela, and, most recently, in Canada to serve the North American market;
- ✓ Market leader in Italy with over 70% market share;
- ✓ The company's product range is able to meet a wide range of needs, including:
  - Reducing pavement thickness without sacrificing on performance;
  - Significantly increasing a pavement's useful life;
  - Reducing environmental impact, including:
    - Reducing energy consumption by lowering working temperatures without compromising the laying process;
    - Reducing the use of virgin aggregates by using up to 90% reclaimed asphalt;
    - Absorbing vehicle emissions;
    - Reducing traffic noise and vibrations;
    - Integrating infrastructures into the surrounding environment;
- ✓ Iterchimica consulting and planning-support services to help determine the best solution that will maximize the performance of the road surface based on the characteristics of the aggregates available and other project limitations, while also maximizing savings;





- ✓ Iterchimica also provides work-site support services to ensure the most efficient use of additives and maximize pavement performance.

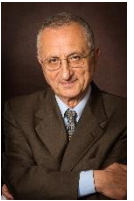
## MANAGEMENT TEAM

### GABRIELE GIANNATTASIO – EXECUTIVE VICEPRESIDENT AND FOUNDER



Founder of the company in 1967, he was one of the first to understand the value of additives for asphalt pavements. His enthusiasm and charisma took Iterchimica to international success, able to compete against multinational corporations in certain market niches. Today, he holds the position of Executive Vicepresident and continues to lend his experience and knowledge to the service of the company.

### VITO GAMBERALE - PRESIDENT



Vito Gamberale has held positions within senior management for a number of leading Italian corporations, including SIP, Telecom Italia, TIM, 21 Investimenti, Autostrade, Fondo Italiano per le Infrastrutture (F2i), and various subsidiaries of the ENI Group. As a shareholder and chairman of the Iterchimica board of directors since June 2015, he is now leading the company through a process of reorganization aimed at achieving significant growth in a strategic market of great potential.

### FEDERICA GIANNATTASIO - CEO



After extensive experience within the organization, she was named CEO of the company in 2015 based on her great technical and organizational skill. A curious, disciplined individual, she is the leading promoter of the spirit of innovation that has always been a distinguishing feature of the company and works to disseminate the ability to find efficient, effective solutions throughout the organization.

### ALESSANDRO GIANNATTASIO - VICEPRESIDENT



The first of the founder's children to join the firm, he now oversees the crucial foreign-markets area. In addition to coordinating the network of agents and distributors, he has personally followed major contracts alongside the general contractors with which Iterchimica is a strategic partner.

### MARIELLA GIANNATTASIO – CFO & CEO



Having joined Iterchimica at the end of the 1990s, she now holds the position of CFO and director of Human Resources. An optimistic, even-tempered individual, she has helped to give Iterchimica one of the highest financial ratings in the province of Bergamo by effectively managing relations with both vendors and banks.

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