



# COMPANY PROFILE

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Technology and Proximity

*A planet with limited resources  
and endless opportunities.  
SGM, experience since 1954.*



Seventy years of world leadership, a journey of innovation, commitment and dedication. Thanks to our extraordinary team and our valued customers, we are ready to continue to lead the world to new horizons of success and growth.



## WHO WE ARE

SGM Magnetics, a world leader group founded in Italy in 1954, specialized in two industrial activities: Lifting Magnets and Separation Technologies.

Our name and logo reflect our two historic core businesses: lifting systems for the steel industry and separators and plants for the metal recycling industry.

Over the years, SGM has developed a pioneering and leading position on lifting magnets and has expanded its experience in magnetic separation to other internally developed separation technologies, such as inductive sensors, X-rays, color separation, gravimetry and complete treatment facilities.

Present all over the world with multiple proprietary subsidiaries, we make proximity to the customer and cutting-edge technologies our strength and the reason to rely on SGM.

We count on hundreds of references that, in seventy years of activity, have repeatedly chosen and trusted SGM solutions and people.





A TRACK RECORD OF TECHNOLOGICAL DEVELOPMENT

	1954	SGM started off with standard circular electromagnets for lifting scrap and plates.
Introduction of the Electro-Permanent Lifting Magnets.	1974	
	1991	SGM introduced a new generation of Rare Earth Electro-Permanent Lifting Magnets.
Opening of SGM Germany, SGM UK and SGM Belgium.	1993	
	1995	Introduction of the first proprietary SGM Flux Measuring Device(FMD). Opening of SGM Magnetics in Pittsburgh, USA.
Introduction of the octagonal SGM Mega Scrap Lifting Magnet and introduction of the proprietary VHG Magnetic Circuit.	2003	
	2004	Introduction of the proprietary SGM Dynamic Ferrous Separators (DSRP).
Introduction of the proprietary SGM Polishing Drum Magnets (PDM).	2006	
	2007	Introduction of the proprietary SGM Lifting Magnets for eye horizontal steel coils (CDMD).
Opening of a second SGM subsidiary on the west coast of the USA, Los Angeles.	2008	
	2010	Introduction of the proprietary SGM lifting magnets with no side magnetic dispersion. Opening of SGM India.
Introduction of the proprietary SGM Eddy Current Separator (TVIS). Opening of SGM China.	2011	
	2013	Introduction of the proprietary SGM Scrap Cleaning Line for Heavy Melt Scrap (HMS SCL) and introduction of the SGM X-Ray dual energy Transmission sorter (XRT).
Introduction of the SGM proprietary Convection Electro Permanent Lifting Magnet (EPCLM) for hot materials and Introduction of the SGM High Resolution Color Sorter (CSS) for metals, polymers,...	2015	
	2016	Introduction of the SGM Air Classifier (ACL and ACS) specially. Introduction of the SGM fully designed induction sensor separator (EMS).
Introduction of the SGM latest generation of X-ray separator (XRT) .	2017	
	2018	Introduction of the SGM Master and Slave lifting magnet spreader beams.
Introduction of the SGM Extra High gradient magnetic separator (SRP-W).	2020	
	2021	Introduction of the SGM proprietary AirMag Separator (AMS), specially designed to remove pieces of stainless-steel contaminants from a mixt of ASR Insulated Copper Wires (ICW).
Introduction of the SGM proprietary X-Ray sorter (XRF-T) combining in one sorter X-Ray Transmission and Fluorescence technologies.	2022	
	2023	Introduction of the SGM proprietary X-Ray sorter (XRF-BS) combining in one sorter X-ray Fluorescence technology and X-Ray Back Scattering technology. Opening of SGM Japan.
70th anniversary of SGM Magnetics.	2024	

VALUES



COMPETENCE

Because nothing is more important than learning through experience. SGM was founded in 1954 and is proud of the vast and international portfolio of references in its field of expertise.



INNOVATION

This is the driving force. SGM has the widest range of advanced technologies internally designed for its lifting and separation activities.



CONFIDENCE

Trust is the starting point of every collaboration. This special bond that we have built with our customers is confirmed by the size and prestige of our references that continue to choose SGM.



PASSION

The passion for what we do is the engine that guides us towards the needs of the customer and the continuous search for innovative solutions.

# SGM IN THE WORLD

The SGM business model is based on providing technological capabilities and being close to its customers through an extensive network of SGM Magnetics locations and a network of long-lasting partnerships with extensive experience in both SGM products and technologies.

Being present in 9 locations globally, allows us to be close to customers, have a clearer vision of their needs locally and always be timely in handling requests.

 **70** Years in business

 **9** Wholly owned subsidiaries

 **2** Customer Material Testing Centers

## CLOSE TO OUR CUSTOMERS THROUGH THE NETWORK OF THE SGM COMPANIES AND BY SOME AGENCIES

### SGM Corporations

1954 SGM Italy  
1993 SGM Germany  
1993 SGM UK  
1993 SGM Belgium  
1995 SGM USA  
2010 SGM India  
2011 SGM China  
2014 SGM Latin America  
2022 SGM Japan

### SGM Agencies

BTC TSANAKTSIDIS - Greece  
CMS CO. LTD - Spain  
DAMBOR S.L - South Korea  
EHRUNG INDUSTRIAL - Taiwan  
HOLGER HARTMANN OY - Finland  
INTEKNO TEKNOLOJI - Turkey  
PROCA SERVICE - Romania

*The other countries are managed directly by SGM Italia*

## OUR PRODUCTION SITES

We manufacture and test our machines in the historic headquarters of Manerbio where our TEST CENTER is also located.

Our customers are invited to test the repaired materials through our technologies, while at the TEST BENCH laboratory they can verify the tear test for the tightness of our magnets.

In 2010 we expanded the production of electro magnets at our Indian headquarters to serve the needs of the local market. In 2011 we started to produce separators at our Chinese factory specifically for the Chinese market.

We rely on longstanding partnerships with local subcontractors and have overcome demanding qualification processes because we care about customer satisfaction quality.



# MISSION

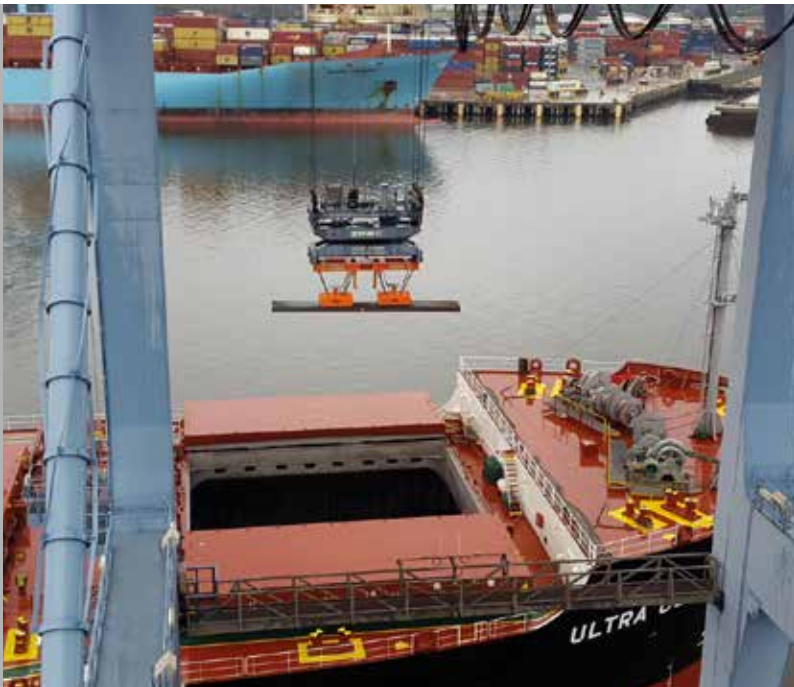
## SEPARATION

Our ambition is to contribute to the circular economy by extending the use of our separation technology materials. They are recognized for their performance, which also increase customers' profitability.



## LIFTING

SGM is committed to extending the technology of advanced lifting magnets worldwide to ensure maximum safety and productivity for steel handling operations in steel mills, steel service centers, ports, shipyards.... wherever heavy steel loads are handled.





# LIFTING MAGNETS

SGM Magnetica started in 1954 with the design and production of lifting magnets for industrial applications and then extended its solutions to all lifting applications in steel mills, steel service centers, steel storage centers, ports, shipyards,... as well as in many special applications, such as loading and unloading slabs from ships, handling of extremely long rails (400m / 1,300') for high-speed trains, handling of pipes on offshore oil platforms, ...

The numerous and prestigious customer references that SGM has acquired over the years on all continents has made SGM a world leader in magnet lifting, based on its experience and technological expertise in the design and construction of solutions that optimize safety and productivity in ferrous materials handling operations.

SGM has numerous proprietary solutions and is a pioneer in offering both electro-permanent and electromagnetic lifting technology.

From individual magnets to complete magnetic solutions for the steel industry.



## MAIN AREAS IN WHICH WE OPERATE



### STEEL AND IRON AND STEEL INDUSTRIES

Many companies around the world offer industrial lifting magnets, but SGM references such as Arcelor Mittal, the world's number one steel manufacturer and Danieli, the world's number one steel plant, are second to no other manufacturer of magnets for lifting.



### LOADING AND UNLOADING OF TRUCKS, RAILWAY WAGONS AND SHIPS

We provide customized solutions according to the customer's requirements. This is demonstrated by Moris, which has been using SGM Magnetica for over 20 years for the handling of longer rails on the Eiffel Tower (up to 360 meters long).



### SERVICE CENTERS FOR STEEL

Large quantities of steel are handled in steel service centers. SGM magnetic lifting systems ensure effective and safe processes. This is shown at Ternium's automated warehouse in Pesquera, where, thanks to our magnets, they handle over a million tons of steel per year.



### PLANT ENGINEERS

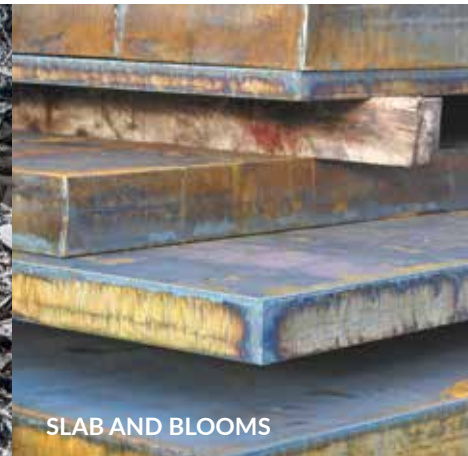
Our OEM customers must have overall control of orders, from design to commissioning. That's why leading groups like Danieli (Italy) and Carego (Canada) rely on SGM when it comes to choosing magnets or complete lifting systems.



# DESIGN OF CUSTOM MAGNETS



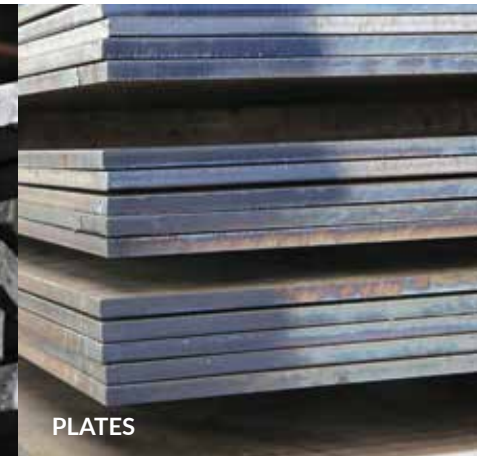
SCRAP



SLAB AND BLOOMS



BILLETS, BEAM BLANKS, BARS



PLATES



COILS



WIRE COILS

BUNDLES OF ROLLED  
REINFORCED CONSTRUCTION  
BARS (RE-BARS)BUNDLES OF STRUCTURALS AND  
HEAVY H-BEAMSBUNDLES, PACKS AND LAYERS  
OF PIPES

RAIL LAYERS

## SCRAP

SGM produces both circular magnets and mega octagonal magnets for scrap.

The SGM Mega Scrap Magnet is the alternative to circular scrap magnets specifically designed for loading with Consteel® technology.

As a standard, SGM uses anodized aluminum for better heat dissipation and longer magnet life.

## SLABS AND BLOOMS

Application suitable to be handled with both EM and EPR based on temperature and safety requirements of the working environment (slab yard, hot rolling mill or port applications).

## BILLETS, BEAM BLANKS, BARS

Application suitable to be handled with both EM and EPR. The anodized aluminum winding increases the duration of the working cycle, especially with loads up to 600-650 C. For hot applications and intensive work cycles, SGM offers its patented convective EM.

## PLATES

SGM EM are designed for both single and multiple sheet metal. Constant current equipment allows to measure the number of lifted sheets and to deposit them accurately and consistently with an optimization of storage space.

The solutions with EPR are made “to measure” for sheets from 900 to 5000 mm wide and 24 m long. Recommended for high-risk applications or when power outages are common.

## COILS

Electro-permanent magnets are an alternative to mechanical calipers, ideal for annealing ovens, a single magnet for lifting coils, convectors and bells. They are completely safe thanks to the result of the combination of the technology of the Electro-Permanent SGM and the Flux Measuring Device (FMD).

Electromagnets can be used for hot rolled coils.

## WIRE ROD

The use of an electromagnet significantly reduces the damage to wire rod compared to the use of C hooks. It is possible to carry wire rod in line up to 5 m long or side by side. The handling of wire rod rolls can be carried out

by only one operator from the crane cab or by remote control. Designed for heavy duty and high temperature applications, SGM uses high heat dissipation resins and anodized aluminum windings.

## BEAMS OF REINFORCED CONSTRUCTION BARS

As for the use of chains or slings, the handling of the beams with Electro magnets is much faster and can be carried out by a single operator from the crane cab or by remote control. A larger volume is available for beam handling when using magnets: you do not need to use wooden spacers when using chains.

## STRUCTURAL BEAMS

With the SGM electromagnets, the only operator from the bridge loads and unloads the wagons or trucks. SGM designs and builds specific magnets for this application taking into account the complete range of loads to be handled (section, length, weight, temperature). Diapason mobile polarities are suitable for managing individual profiles (longitudinally) or profile rows (transversely).

## BUNDLES AND LAYERS OF TUBES

The handling of beams with electromagnets is much faster and safer than the use of beams and chains and can be performed by only one operator from the cab or via remote control. The use of magnets provides more storage space. Solutions with extendable beams allow the handling of beams with lengths of 6, 12 and 18 meters.

## LAYERS OF RAIL

SGM manufactures electro permanent magnets specially designed for handling rail layers, even for fully automatic systems, with negligible residual magnetism. These magnets require no special maintenance and the lifetime of the magnetic alloys used is unlimited.



# OUR PRODUCTS

ELECTROMAGNETS



CONTROL PANELS  
FOR MAGNETS



PERMANENT  
ELECTRO-MAGNETS



TRAVERSE





# SEPARATION TECHNOLOGIES

Decades of experience have taught us that often the best solution is a combination of the best technologies. That's why we have never stopped and continue to develop new cutting-edge technologies that will significantly help our customers in their recycling and resource recovery operations in a highly profitable way.

SGM Magnetics offers the widest range of technologies for the separation of minerals, scrap and materials for recycling such as glass, wood and municipal solid waste.



Because the best solution is often a combination of best technologies.



SGM, the world's leading group with the widest range of internally designed separation technologies.



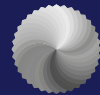
**X-RAY**  
X-ray technology with measurement transmission. The absorption level of the wavelengths of each individual piece of material traveling on the tape and characterizing its atomic number.



**SENSOR**  
Sensor separation technology is based on identification by induction sensors of metal particles in the material flow.



**MAGNETISM**  
The magnetic separation technology is based on the magnetic attraction of ferrous metals and the magnetic repulsion generated by eddy currents on non-ferrous metals.



**COLOUR AND SHAPE**  
Color and Shape separation technology is based on the identification of the pieces according to the color, gloss and shape of the material.



**GRAVITY**  
This separation technology uses the principle of gravity and is based on the difference in weight and density of the various elements that make up the material flow.



**BALLISTIC**  
The ballistic system operates on the different trajectories of the individual elements when they are launched according to their mass, size and shape.



# AREAS OF APPLICATION



AUTO SHREDDER RESIDUE (ASR)



ALUMINUM SCRAP



HEAVY MELT SCRAP (HMS)



ELECTRONIC WASTE (WEEE)



MUNICIPAL SOLID WASTE INCINERATOR ASH (IBA)



GLASS RECYCLING



DIAMONDS



MUNICIPAL SOLID WASTE (MSW)



COAL



PLASTIC RECYCLING



WOOD RECYCLING



IRON ORE

## RECYCLING

### END-OF-LIFE GROUND VEHICLES (ASR)

SGM provides a complete range of technological solutions for the cleaning and recovery of the iron produced by grinding mills and for the recovery of non-ferrous metals present in the non-ferrous fraction.

### MUNICIPAL WASTE INCINERATED (IBA)

Since the incineration of municipal solid waste (MSW) reduces the volume of MSW by 80% and its weight by 90%, this practice is an increasingly frequent alternative to the disposal of MSW in landfills. SGM offers a complete range of separators for the treatment and recovery of ferrous and non-ferrous metals from incinerator ash.

### MUNICIPAL SOLID WASTE

SGM offers a complete range of separators for ferrous metals (drums, pulleys and belt separators) and non-ferrous metals (Eddy current separator up to 2 m wide). It also offers color separators for processing municipal solid waste (MSW) for the recovery and enhancement of plastics.

### GLASS

Glass is one of the materials that can be recycled endlessly. Producing glass from scrap is convenient as it requires less raw materials and energy but the scrap glass is required to be cleared of metal contaminants.

### WEEE E-WASTE

SGM offers a complete range of separators for ferrous metals (drums, pulleys and belt separators) and non-ferrous metals (Eddy current separators up to 2 m wide). It also offers color separators (for the recovery of electronic boards), X-ray separators (for chlorinated and brominated plastics). SGM solutions treat material in coarse form down to very fine particles, including precious metals up to 0.2 mm.

### WOOD

Urban waste wood is increasingly being recycled to be used for the production of wood-based panels or other applications, for which the removal of metal contaminants is important.

## STEEL MILLS

### LINE OF SCRAP CLEANING

The Scrap Cleaning Line SGM HMS is used to clean and drastically reduce the content of non-ferrous pollutants in iron scrap intended for electric furnaces in steel mills. The SGM Scrap Cleaning Line is also designed to meet the requirements of strength and reliability specific to the working conditions of steel mills.

## FOUNDRIES OF ALUMINUM

For aluminum foundries the use of aluminum scrap as a raw material is cheaper than the use of primary aluminum loaves, but the high zinc, copper, iron and magnesium content of scrap generally limits its use to no more than 10%. The use of SGM technology and separators drastically reduces the residual content of heavy metals in aluminum scrap and offers its users the possibility of using a significantly higher percentage of scrap than the primary use.

## MINERALS

### COAL

SGM provides a complete range of separators for ferrous metals, including magnetic drums and magnetic tapes, for the removal of ferrous contaminants present with coal in coal conveyors.

### IRON

The SGM X-Ray Transmission Sorter is the ideal solution for pre-concentrating iron and manganese ores by means of a dry process.

### DIAMONDS

The SGM X-ray separator (XRS) is used to concentrate the presence of diamonds from rocks by exploiting the atomic number of the diamonds themselves.



# CUSTOMER CARE AND SERVICE

SGM Magnetics is strongly committed to providing solutions with state-of-the-art, custom-designed technology, and ensuring worldwide customer support.

Our specialized technicians are able to provide support in every step, from the commissioning of new systems to the preventive maintenance service.

Our goal is to keep our customers' products in optimal condition.

The SGM customer support team is able to provide real-time support on the job site or remotely for maintenance and repairs, fast and reliable spare parts service, operator training and inspections for components subject to normal wear and tear.

Over 70 years of experience  
delivering technology and  
proximity.

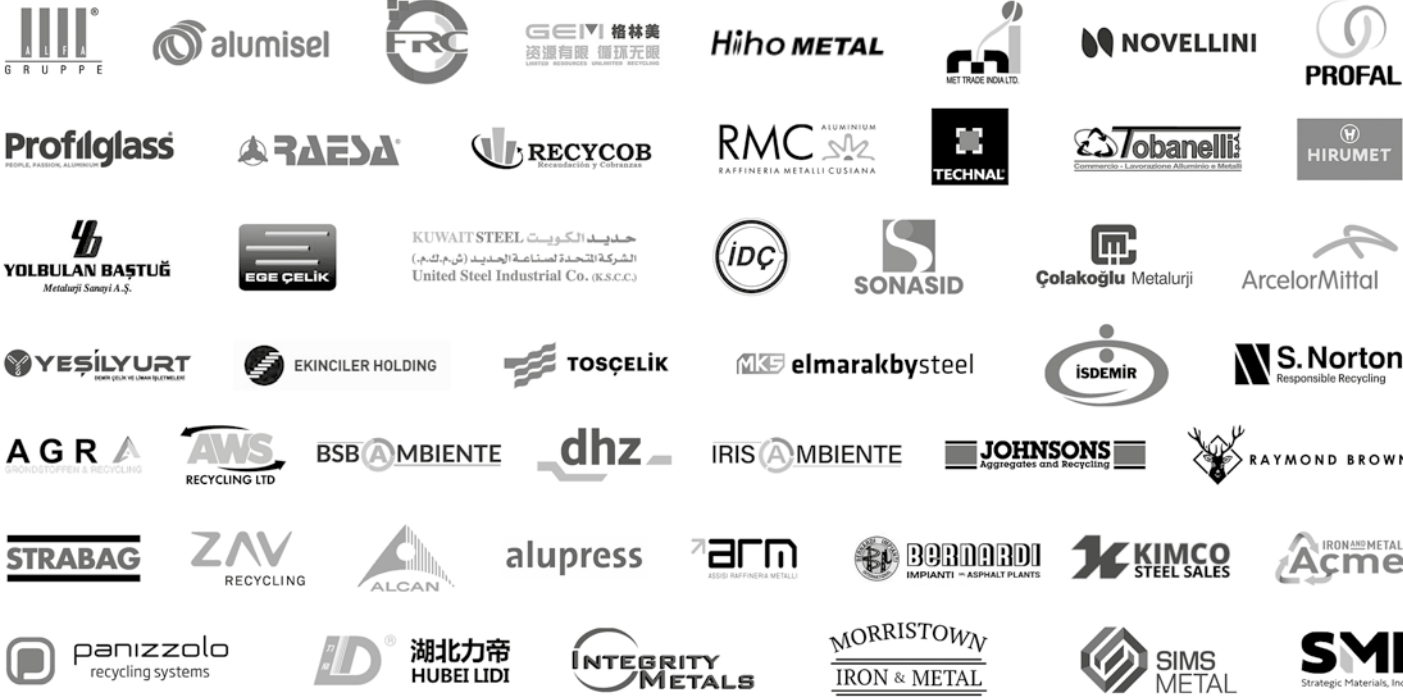




# LIFTING MAGNETS REFERENCES



# SOME OF OUR REFERENCES SEPARATION TECHNOLOGIES



Our references testify  
to the trust our customers  
place in us.











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Our choice of printing on 100% recycled paper is just a step in our journey towards a greater environmental responsibility. A better future is possible, and we can all help make it happen.

#### Printed on myRecyco

myRecyco is 100% recycled fibre with varying proportions of pre-consumer and post-consumer waste.  
myRecyco is biodegradable and compostable.

#### Ecological characteristics:

