



SUSTAINABLE GOLD MINING IN EUROPE

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Gold: unique and intrinsically valuable, today and tomorrow

Throughout history, gold is unique and essential. Its physical properties combined with its natural beauty make gold intrinsically valuable and irreplaceable for many uses. Gold is indeed the only raw material, which has

- » A high traditional value rooted in centuries of goldsmithing;
- » A high monetary value which is key to preserving financial stability;
- » A high technological value making it essential for multiple and sometimes unexpected applications including health or environmentally-friendly technologies.

Because of its unique properties, gold has been mined for thousands of years. Modern gold mining is a safe and environmentally responsible activity, using state-of-the-art techniques to find, extract and process this essential precious metal.

Europe has both a number of untapped gold deposits and the technology to sustainably mine gold. However, despite being resource-rich, Europe continues to import an overwhelming majority of the gold it requires.

Promoting sustainable gold mining in Europe represents a concrete opportunity to meet EU's policy objectives in the field of raw materials and to foster regional development, through large direct investments and creation of new jobs.



Gold, inspirational throughout history

Mining is known to be, with agriculture, humankind's oldest industry. Throughout history, the development of the world's greatest civilizations has been closely linked to the ability of their citizens to find and master the exploitation of essential sources of raw materials. In many of them, gold often played a special role.

Though it is impossible to pinpoint precisely the date and place of man's first contact with the yellow metal, the oldest golden treasure was found at a burial site, known as "Varna Necropolis", located in Bulgaria. Gold-made artefacts discovered in Varna date from 4,600 BC to 4,200 BC, implying that gold could have been mined since prehistory for nearly 7000 years. The first use of gold as money dates back to antiquity when Croesus, the King of Lydia, located in today's western Turkey, created, around 560 BC, a coin emblazoned with his own image.

Since then, gold has been mined all over the world, including in Europe, in a variety of regions such as the Iberian Peninsula, Britain and Ireland, France, Transylvania, Greece, Turkey and more recently Scandinavia.



UNIQUE PROPERTIES FOR MULTIPLE APPLICATIONS



Gold is so ductile that 28 grams of gold can be stretched over 80km.

Unique properties

Gold is one of the rarest elements on earth and is considered as the most precious of all precious metals. Besides its natural beauty, gold exhibits exceptional physical qualities. Gold is soft, very malleable, non-toxic, bio-compatible, electricity and heat conductive, resistant to corrosion and to a vast number of other chemical reactions, which makes it an incredibly stable and durable metal. Gold can be easily alloyed with other metals such as copper or silver, which widens the range of possible colour shades and further increases the alloy's hardness and abrasion resistance.

Gold's multiple applications: when tradition meets the future

Gold's unique properties make it a material of choice for a wealth of different applications, ranging from everlasting uses in jewellery or financial services to widespread and sometimes unique applications in high-technology devices. It is hard to find another metal with so many different types of uses.



Say it with gold

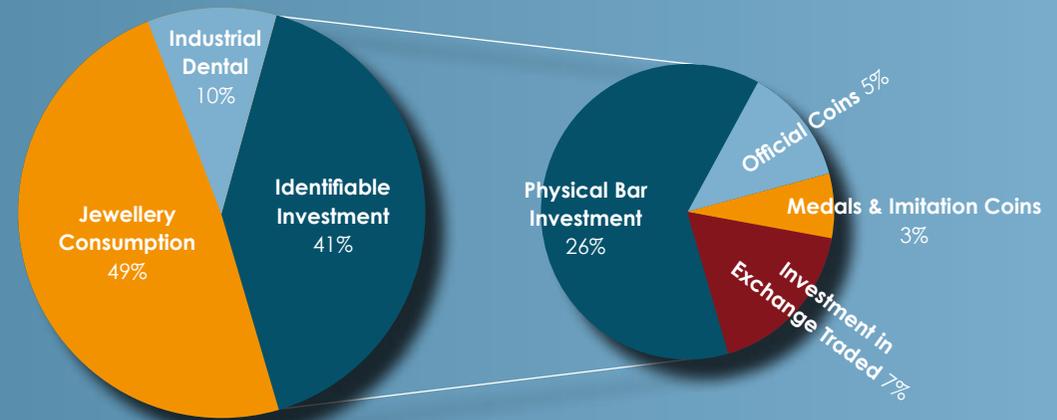
Gold jewellery and ornament

For thousands of years, mankind has been fascinated by the beauty of gold and has fashioned it into jewels or into ornaments that symbolized love, power or perfection. The goldsmiths' craft of the greatest civilizations in history gave birth to invaluable treasures, which transcend time and can still be admired today. One of the most beautifully ornamented and a preserved piece is the tomb of King Tutankhamen, who died in 1323 BC. It represents what is undoubtedly one of the greatest treasures of Ancient Egypt. Apart from Egyptian art, gold ornament collections were also found in the history of Incas, Aztecs, Chinese, Japanese, Ottoman and of course European civilizations. Today, gold jewellery continues to be a gift apart, offered at special occasions, which will last for countless generations.

ID Card

Chemical Symbol	Au (from the Latin word "Aurum", which means shining dawn)
Colour	Golden-yellow
Weight	Nineteen times heavier than water; Twice the weight of lead
Melting point	1064°C
Boiling point	2856°C
Atomic number	79
Measure	Karat (pure gold = 24 karats)

End-use Gold Consumption 2012



Source: Gold Survey 2013, Thomson Reuters GFMS

Pure gold is often too soft and it easily bends. For this reason, gold jewellery is always alloyed with other metals to increase its hardness. The purity of gold depends on the percentage of alloyed metal measured in karat. This unit of measurement determines the percentage of gold with respect to other metals on a scale of 1 to 24, with 24 karats being pure gold.

UNIQUE PROPERTIES FOR MULTIPLE APPLICATIONS



Gold in the financial system: keeping your assets in a safe harbour

Because it is intrinsically valuable, gold has been throughout history a natural financial asset and store of wealth. As commonly said, paper currencies may come and go, but gold endures. Gold had a monetary role with gold coins being struck since antiquity to buy and sell goods.

In modern history, gold became a monetary standard in the 19th century when many countries decided to determine the value of their currencies in relation to a specified amount of gold. The gold standard contributed to the remarkable economic development experienced at the beginning of the 20th century by fostering long-term price stability and providing fixed international exchange rates between countries using it. Gold as an exchange standard was defi-

nitively abandoned in 1971 when President Nixon ended the international convertibility of the dollar to gold.

Gold continues to play a major role in the financial system. Its value has constantly increased over time enabling gold to maintain a purchasing power that outperforms paper currencies. According to the World Gold Council, its price averaged around 35 USD/troy ounce at the beginning of the 1970's, when the gold standard was about to be abandoned, 279.1 USD/troy ounce in 2000 (annual average) and 1326.3 USD/troy ounce in the third quarter of 2013 (quarterly average). Central banks and investors consider gold as an asset of choice for its outstanding stability over time against inflation, currencies' depreciation and market risks, especially at times of economic instability.

Spot gold price in USD



Currencies: USD
Weight: oz

Source: World Gold Council

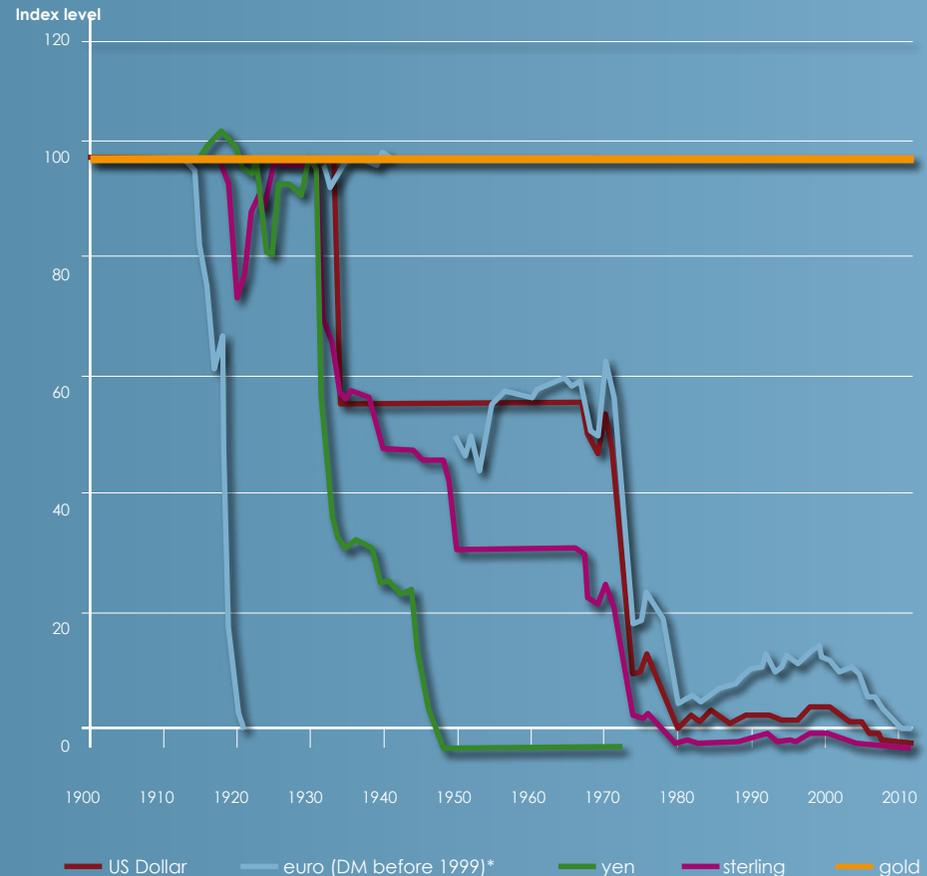
As a result, the importance of gold has increased once again during recent years marked by substantial financial stress. Gold continues to be a major asset for central bank reserves, representing sometimes more than 60% of their total foreign-exchange reserves in countries such as the United States, Germany, Italy or France. As of August 2013, the 17 Eurozone countries alone held 10 782,6 tonnes of gold reserves which represents nearly 34% of the world's central banks' gold holdings amounting to 31 909,7 tonnes (source: World Gold Council, August 2013). A growing number of central banks, especially from emerging nations, seek to buy gold to diversify their reserves, usually in USD or in other reserve currencies, and have benefited from gold's steady performance over recent years. Reports suggest that this trend is likely to continue and support the figures showing that central banks became net buyers of gold in 2010 for the first time in the last two decades (Source: Gold Survey 2013, GFMS Thomson Reuters).

You have to choose between trusting to the natural stability of gold and the natural stability of the honesty and intelligence of the members of the government. And, with due respect to these gentlemen, I advise you, as long as the capitalist system lasts, to vote for gold.

George Bernard Shaw

Being highly liquid, i.e. easily tradable, and much less volatile than other assets, gold can also be part of the solutions that contribute to enhance the stability and transparency of financial markets in the aftermath of the financial crisis. For example, the new European Market Infrastructure Regulation (EMIR), adopted in July 2012, sets out a framework to mitigate the risks of over-the-counter (OTC) derivatives, which are privately negotiated contracts occurring without any market supervision such as the heavily traded "credit default swaps". EMIR requires, inter alia, OTC derivatives to be cleared by a third party, called a central counterparty (CCP), which can accept for that purpose only highly-liquid collaterals, including gold.

Currencies in terms of gold (indexed: 1900=100)



Source: IHS Global Insight, Thomson Reuters Datastream, World Gold Council

* The gaps in the deutschmark/euro line reflect hyperinflation in 1922 followed by the breakdown after WW2.

UNIQUE PROPERTIES FOR MULTIPLE APPLICATIONS



Gold in Medicine

Gold use in medicine dates back to remote antiquity when our ancestors attributed to gold fantastic virtues, such as beauty or everlasting health. In modern medicine, its bio-compatibility and hypoallergenic properties coupled with excellent corrosion and bacterial resistance make gold a material of choice for multiple applications.

Dentistry

Gold has been used in dentistry for about 2700 years and gold's usage is still widespread in modern dentistry. Gold is used for inlays, crowns and bridges and is usually alloyed with other precious metals.

Diagnose and heal

Medications using gold compounds have already proven their efficiency in the treatment of some forms of cancer as well as in the treatment of certain types of arthritis, rheumatism and inflammations. Many medical devices also use gold compounds. For example, wires for pacemakers and gold-plated stents are used to help support weak blood vessels in the treatment of heart-disease. Some implants posing

a higher risk of infection, such as for the inner ear, also use gold compounds because of its high resistance to bacterial colonization.

Research in the field of nanotechnology offers very promising prospects for new gold applications. Indeed, gold has different properties in the form of nanoparticles but keeps the ones, such as biocompatibility or bacterial resistance, which are essential for medical applications.

For example, cost-effective and easily transportable tests using gold nanoparticles are currently in use to diagnose deadly diseases. In the case of malaria, the Rapid Diagnosis Tests (RDTs) contains a thin layer of gold nanoparticles that changes colour, within a few minutes, to indicate if the patient's blood sample is infected by malaria. The ability to quickly diagnose such a disease in remote places with very limited infrastructure is crucial to saving lives.

Other applications include gold nanoparticles as a vehicle to more effectively deliver drugs to affected tissues such as tumours. Clinical trials are currently underway in the USA for this particular application.

Electronics and high tech applications

The numerous properties of gold make it indispensable for an ever-growing number of high-tech applications, out of which we have selected both well-known and more unexpected ones.

Electronics: gold everywhere

Because of its outstanding malleability, corrosion resistance over time, electricity and heat conductivity, tiny quantities of gold are used in the circuits of almost every sophisticated electronic device, such as mobile phones, computers, televisions, GPS, etc. As a result, gold is essential for the effective functioning of a vast number of objects we use in daily life.

High tech applications

Gold is also essential for a number of high-tech applications. Aerospace, which requires the highest performance and safety standards, is an industry where gold compounds have numerous applications. For example, sensitive parts of spacecraft or even astronauts' helmets are fitted with a thin layer of gold to protect them from intense radiation and heat. The canopy of modern jetfighters is also coated with a thin layer of gold to prevent radar waves entering the highly-reflective cockpit interior and improve stealth performance. Jet engines also contain a number of precious and critical metals, including gold.

Gold is widely used in space engineering. For example, altogether, nearly 41 Kg of gold was used in the construction of the US Columbia spaceship.

(source: World Gold Council)

Environmentally-friendly solutions

Reducing the environmental footprint of human activities is one of the main challenges of the 21st century. Research & Development shows great potential for environmentally-friendly applications of gold. For example, it has been demonstrated that the inclusion of gold nanoparticles in catalytic converters helps to reduce noxious emissions at a lower cost than converters using only the more expensive platinum group metals, without compromising the performance of these devices which are key to preserving air quality. Gold can also improve energy-efficiency. Gold coated glass has been used for decades by the building industry to reflect solar radiation and achieve a better isolation. The use of gold in glazing helps buildings to stay cool in the summer and warm in the winter, and, thus to reduce energy consumption. Last but not least, among the many applications currently explored, researchers have shown that an extra-thin layer of gold nanoparticles can increase the efficiency of photovoltaic solar cells. Promising applications using nanogold are therefore being developed to enhance the performance of traditional solar panels or even create "photovoltaic" windows which produce electricity.



MODERN GOLD MINING IN EUROPE: SUSTAINABLE AND RESPONSIBLE

The focus on safe production using Best Available Techniques

Gold mining in Europe is strictly regulated by the European Union (EU) and its Member States. In the aftermath of well-known mining incidents that occurred more than a decade ago, the EU has enacted specific legislation – the Mining Waste Directive 2006/21/EC – to ensure safe mining operations in Europe. This Directive sets a number of precise obligations to protect human health and the environment and prevent mining incidents, such as:

- » Appropriate measures to ensure safe construction of waste facilities and prevent, for example, dam failures;
- » Precise management plans to minimize, recover or dispose of extractive waste during operations;
- » A major-accident prevention and information plan for certain types of facilities;
- » Strict requirements to ensure an environmentally safe closure of waste facilities at the end of the mine life, including the rehabilitation of the waste facility, so as to prevent or reduce as far as possible any adverse effects on the environment and human health;
- » Inspections to ensure that obligations are fulfilled during operation;
- » An environmental financial guarantee that must be constituted before the start of any mining operation to ensure that all obligations arising from the permit, including the rehabilitation of the site following mine closure, will be met in case of bankruptcy.

In accordance with the Mining Waste Directive, processes to manage mining waste used in European mines must be based on Best Available Techniques (BAT), described with examples in an associated Reference Document.

Operating mines and projects are also subject to a comprehensive set of rules stemming from both national legislations and other EU instruments, such as:

- » The Environmental Impact Assessment Directive which, in practice, requires consideration of environmental effects, consultation with local communities and adoption of the best suited technical solutions;
- » The Water Framework Directive setting water quality standards and the Environmental Liability Directive which imposes a strict liability regime in case of environmental damage.

As a result of strict regulatory requirements and of operators' responsible behaviour, the European gold mining industry is among the most modern and safest worldwide.



How Gold is produced

A modern day gold mine is a fully industrialized installation which uses high-tech processes, specific machinery and automation to extract and process gold ore and the most up to date technology to protect human health and safety.

From exploration to production

Exploration is the preliminary step to any mine as it aims at finding commercially viable deposits. It involves a number of diverse activities, from geological mapping of large areas via airborne surveys using airplanes to soil sampling and diamond drilling of more precise potential deposits. Exploration is carried out by public bodies, such as geological surveys, and large as well as all small exploration companies. Exploration alone is pure cost for the entity which undertakes it as there is no production with which to earn revenue.



El Valle-Boinás gold mine in Spain before and after rehabilitation

MODERN GOLD MINING IN EUROPE: SUSTAINABLE AND RESPONSIBLE

State of the art mining and processing

European mines, be it underground or open-pit, use state-of-the-art techniques to extract and process the ore to produce gold. Operations are highly mechanized and automated under the control of skilled workers, specifically trained for these tasks.

After its extraction, ore is crushed and treated in a modern processing plant. The type of techniques used very much depends of the nature of the ore to be treated. However, techniques used in the European mines must be based on "Best Available Techniques" (BAT), as expressly required by the Mining Waste Directive. Modern processing using BAT enables recovery of gold from the ore and ultimately production of

gold either directly at the mine site, in the form of doré bars containing up to 95% gold, or at a separate smelter.

As the gold ore usually contains other minerals, such as copper or silver, a number of gold mines also produce concentrates of other metals.

Exploration

Design

Construction

Mining &
Processing

Mine
Closure

Closure planning + Rehabilitation



Cyanide use in industry

Cyanide is widely used in a variety of industrial processes which produce a variety of goods used in our daily life such as plastics, pharmaceuticals, food additives, hardening of metals, etc.

Why cyanide is used in gold mining?

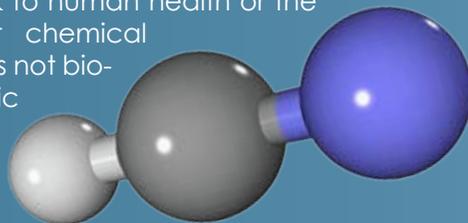
In ores, gold often occurs in microscopic grains locked up within other minerals. Because gold's unique and valuable characteristics make it resistant to air, humidity and a variety of acids, only very few chemicals are able to dissolve gold from the ore mined. Cyanide is one of them and is so far the most efficient and safest one. As a result, an overwhelming majority of modern gold mines operating around the world uses dilute solutions of sodium cyanide in combination with adsorption on activated carbon for gold recovery. In exceptional cases, the nature of the ore enables the use of cyanide-free processes such as gravimetric separation and flotation concentration.



Safe use of cyanide in gold mining

What is cyanide?

Cyanide is often used to describe a group of chemical compounds consisting of a carbon atom triple-bonded to a nitrogen atom. Cyanide itself is a naturally occurring molecule, which is present in a number of fruits or plants such as in almonds, apple seeds or cassava. Low levels of cyanide are also found in coffee, table and road salt and in cigarette smoke. Above certain concentrations, cyanide is an acutely toxic substance, which is why it has been used throughout history as a poison. This partially explains a number of misconceptions associated with the industrial uses of cyanide. However, if cyanide is properly manufactured, handled and used, it does not pose a risk to human health or the environment. In addition, unlike other chemical substances such as mercury, cyanide does not bio-accumulate in nature meaning that chronic exposure to harmless concentrations of cyanide does not lead to harmful long-term effects.

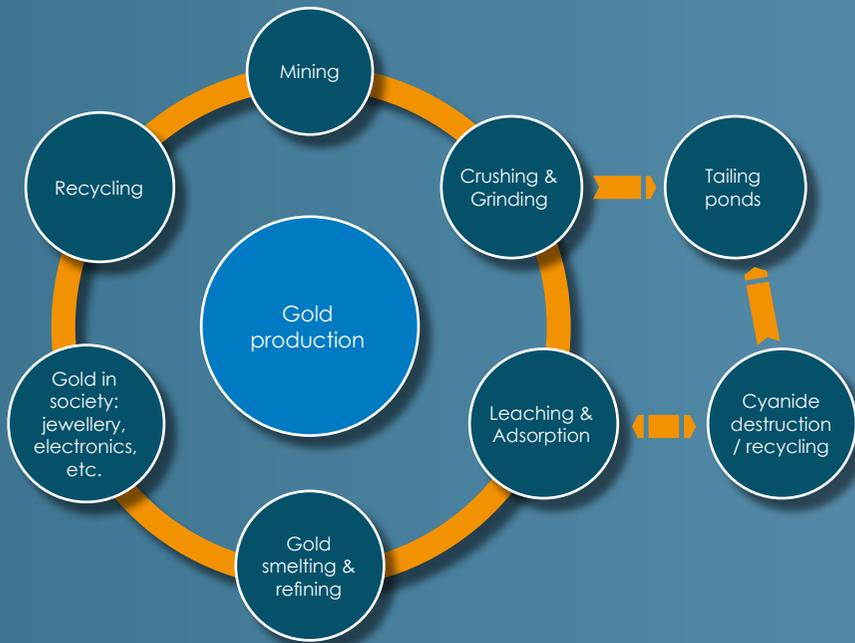


MODERN GOLD MINING IN EUROPE: SUSTAINABLE AND RESPONSIBLE

How cyanide use is regulated in mining?

The use of cyanide in ore processing is regulated by specific requirements enacted by the EU to ensure safe use and to prevent risks for human health and the environment. According to the Mining Waste Directive and its accompanying Reference Document, the combination of cyanide-based gold recovery with subsequent cyanide destruction is deemed a Best Available Technique (BAT). They require that dilute solutions of cyanide to recover gold from the ore are used in a closed-loop process.

In practice, this means that BAT implemented in all EU operations ensures that cyanide is either recycled and re-used in the process or destroyed prior to any disposal of tailings. Strict and binding limit values are set at EU level to enforce the implementation of BAT. The fact that cyanide further naturally degrades in the tailings facility means that final concentrations in the tailings can even become very difficult to detect.



In addition, beside the EU's very strict legislation, the gold mining industry has developed under the auspices of the United Nations Environmental Program (UNEP), the "International Cyanide Management Code" which sets a number of standards to guarantee a safe manufacture, transport, and use of cyanide in the production of gold. Companies that voluntarily adhere to this Code are audited by third parties to ensure compliance with its requirements.

Are there better alternative technologies to cyanide use in industrial mining?

Cyanide is a relatively expensive reagent. Despite significant investments made to find cheaper technologies which could replace cyanide, suitable, efficient and more environmentally-friendly alternatives simply do not exist on an industrial scale at this time. In addition, the hazards of potential alternatives are often worse for workers and/or the environment.

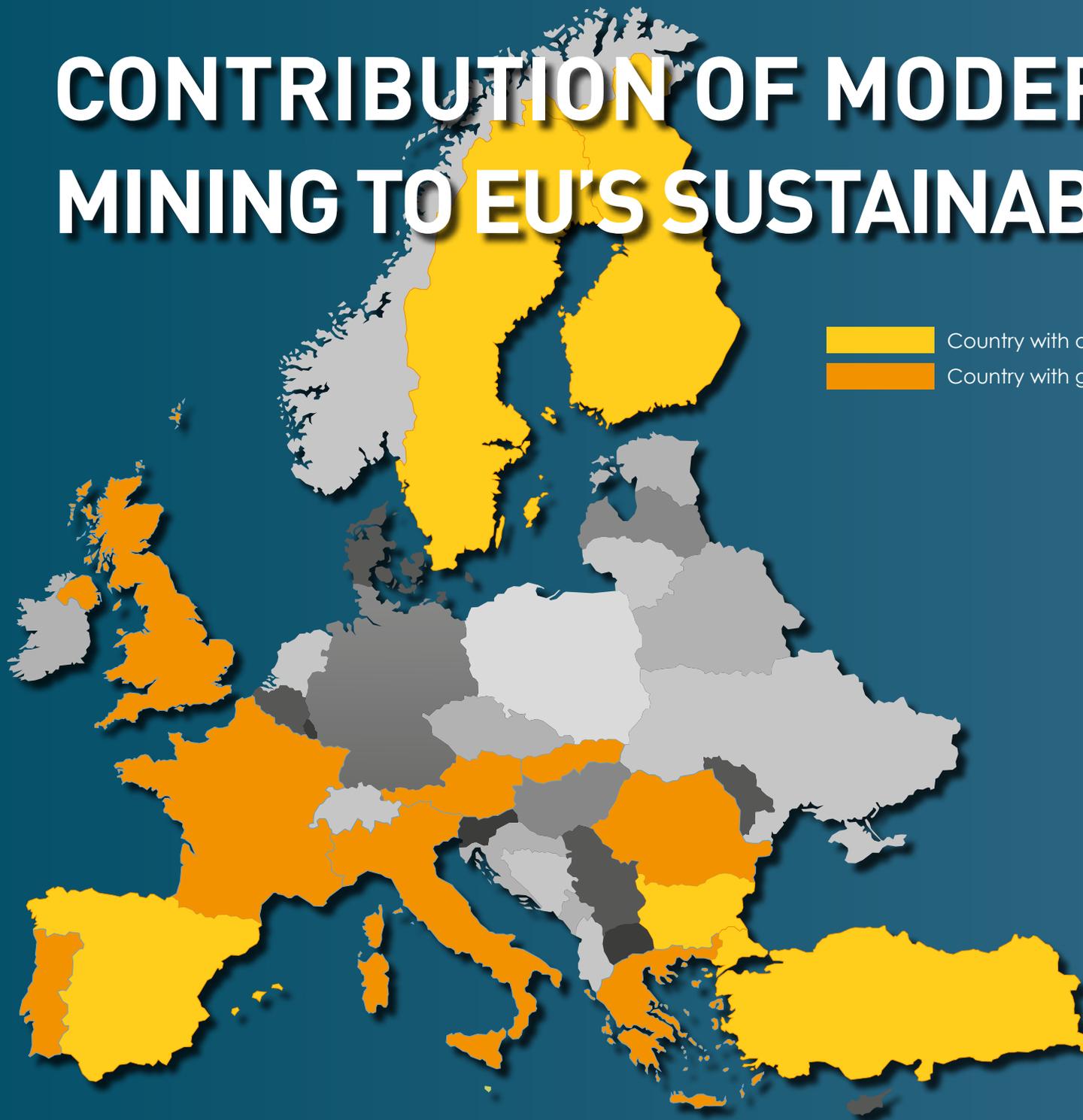
Banning cyanide use in mining at EU level has been widely discussed. The European Parliament even adopted a non-binding resolution in May 2010 asking for such a measure. However, banning cyanide use in mining would be unjustified from environmental and human health perspectives given the strict EU requirements currently applied. In addition, because of the absence of suitable alternatives, a cyanide ban would result in:

- » The closure of operating mines in Europe which are among the most modern and safe mines in the world,
- » The loss of thousands of jobs as mines create a significant number of direct and indirect jobs,
- » Lost opportunities for countries, some of whom face economic challenges, to attract investment and generate new revenues,
- » A further increase of EU's dependency on gold imports to meet its internal demand.

These consequences have been clearly explained by the European Commission, which stated in a follow-up to the European Parliament resolution, that "a general ban on cyanide use would imply the closure of existing mines operating on the basis of the stringent standards as defined in the [Mining Waste] Directive, which would be detrimental to employment without additional environmental and health added value". Subsequently, the executive body of the EU explained in response to a parliamentary question (P-009615/2011) that "a total cyanide ban would imply either stopping European extraction, or exporting the gold-bearing concentrate to be treated outside the European Union where lower environmental standards apply."



CONTRIBUTION OF MODERN GOLD MINING TO EU'S SUSTAINABLE GROWTH



-  Country with operating gold mine(s) and project(s)
-  Country with gold mine project(s) or gold exploration activities

Where is gold produced in Europe?

Gold is mined in Finland, Sweden, Bulgaria, Spain and Turkey. Finland and Sweden are the two top EU gold producers followed by Bulgaria and Spain. Turkey, which started mining gold at the beginning of the 21st century, now produces more gold than all the EU Member States together. Mined gold is further refined in processing installations located in these countries or in other European countries, such as in Poland. Gold refining also contributes to wealth creation throughout the value chain.

Gold mining projects are at the permitting stage across Europe including in the United Kingdom, Portugal, Romania, Slovakia and Greece. Exploration of gold deposits is also underway in other countries, for example, France, Italy and Austria.

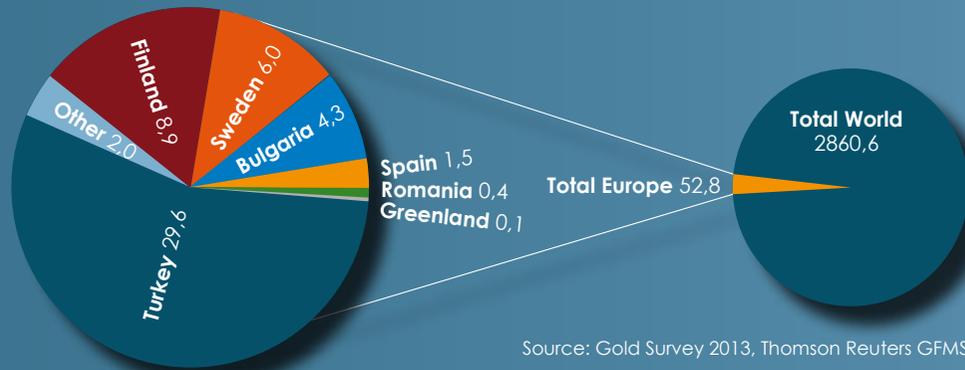
EU still lagging despite bright prospects

Recent projects mapping mineral resources – such as the ProMine Project co-financed by the EU – have demonstrated that Europe is resource-rich, including economically viable gold mining deposits.

Despite its gold mining potential, Europe is still lagging behind the rest of the world. In 2012, EU's gold mine production accounted for less than 1% of world's gold production and nearly 2% when including the Turkish gold mine production (source: Gold Survey 2013, GFMS Thomson Reuters).

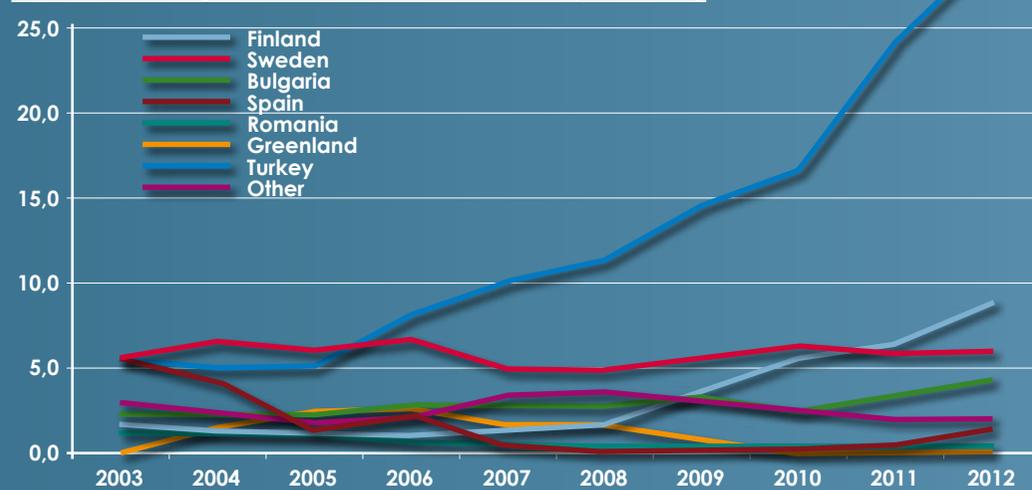
As a result, Europe is still heavily dependent on gold imports (>90%) from other countries of a metal whose price has increased by around 375% between 2000 and the third quarter of 2013.

European gold mine production (tonnes) vs. World total



Source: Gold Survey 2013, Thomson Reuters GFMS

European gold mine production (tonnes)



Source: Gold Survey 2013, Thomson Reuters GFMS

Contribution of gold mining to EU's sustainable growth agenda

Modern day gold mining delivers opportunities which are fully in line with EU's sustainable growth objectives, as defined by Europe 2020. It fosters 'inclusive', 'sustainable' and 'smart' growth.

Inclusive growth

Modern day mining provides a diversity of high quality jobs, from miners who benefit from continuous training to operate complex machinery and master new skills to geologists or engineers whose knowledge and innovative solutions contribute to responsible and safe mining operations. In contrast with seasonal economic activities such as tourism, mining provides long term employment opportunities.



Even more significant is the fact that these jobs are created in remote European regions, which traditionally face a high unemployment rate and thus foster territorial cohesion with wealthier and more urbanized areas. On average, a small or medium size gold mine directly employs more than 150 workers but this number can rapidly increase to more than 600, including contractors' employees working on site, for larger operations such as at the Kittila Gold Mine operated in Northern Finland. The number of indirect jobs generated by a gold mine can often be two to three times the number of direct jobs. **A survey of Euromines' members shows that local economies directly benefit from this job creation as the number of employees hired from local communities is always higher than 50% and very often reaches 80% or 90% for the majority of operating gold mines or projects at permitting stage.**

In addition to simple job creation, voluntary schemes put in place by companies to support communities and protect the environment shows that corporate social responsibility in the mining sector results in concrete actions, which are adapted to local needs.

CONTRIBUTION OF MODERN GOLD MINING TO EU'S SUSTAINABLE GROWTH

Sustainable growth

Economically sustainable

Raw materials are the very basis of our society. They are present everywhere in our daily life and crucial for the competitiveness of the European industry. Gold, with its multiple and sometimes unknown applications, highlights this fact. Sustainable gold mining in Europe contributes to:

- » The economic recovery thanks to large investments brought directly into Member States' economy;
- » Ease EU's overwhelming dependence on gold imports from countries outside Europe;

Regarding the former, direct investments to launch and operate a gold mine usually exceed 100 million euros and can even be more than one billion euros for large scale projects. **In addition to direct investments**

to bring an operation to life, a gold mine has a true multiplier effect.

Local economies benefit from workers increased standard of living and consumption while a number of small and medium sized companies boost their business activity by providing the goods and services needed by a mining operation. Taxes paid by the company, be it in the form of royalties, income or social security taxes, directly benefit Member States which in turn can use this source of income to reduce national debt and/ or improve public services and infrastructures.

Regarding the latter, sustainable gold mining in Europe is fully in line with the EU's policy objectives that aim to provide a secure and affordable source of raw materials and to reduce Europe's imports dependency. Should current gold mining projects progress to production, it would lead to **more than a 100% increase** in EU gold mine production. **It would benefit a number of downstream industries from mining to end consumer products using gold, as wealth is created along the entire value chain.**

Environmentally responsible

Gold mines in Europe operate in accordance with the highest environmental and social standards. A focus on environmentally responsible mining not only includes measures to protect human health and prevent accidents, it also includes modern mine site rehabilitation following the closure of the facility so as to mitigate environmental effects and preserve biodiversity. As a result, companies producing gold in Europe contribute to ensuring responsible production and sourcing of natural resources as well as to reduce Europe's global ecological footprint by lowering the share of raw materials imported from third world countries applying much lower environmental standards.



Last but not least, once mined, gold stays in society and is fully recyclable without losing its qualities. Recycling enables to close the loop of the value chain. However, even maximum recycling cannot alone meet all the EU's demand for gold explaining why sustainable mining and recycling are complementary by nature.

Smart growth

The importance of innovation in the field of mineral resources has been recently highlighted by the European Innovation Partnership on Raw Materials whose Strategic Implementation Plan (SIP) paves the way to make Europe a world leader in raw materials exploration, extraction, processing, recycling and substitution by 2020.

Mining is a highly innovative sector by essence as developers must for each operation come up with tailor-made solutions adapted to the challenges posed by local geology. More resource-efficient processes are constantly sought to optimize production and meet high environmental standards. Companies supplying the mining industry with the dedicated machinery, processing solutions and automation systems also play a significant role in fostering innovation. Some of the world leaders in these fields are actually European companies which would benefit from a strong EU mining industry.

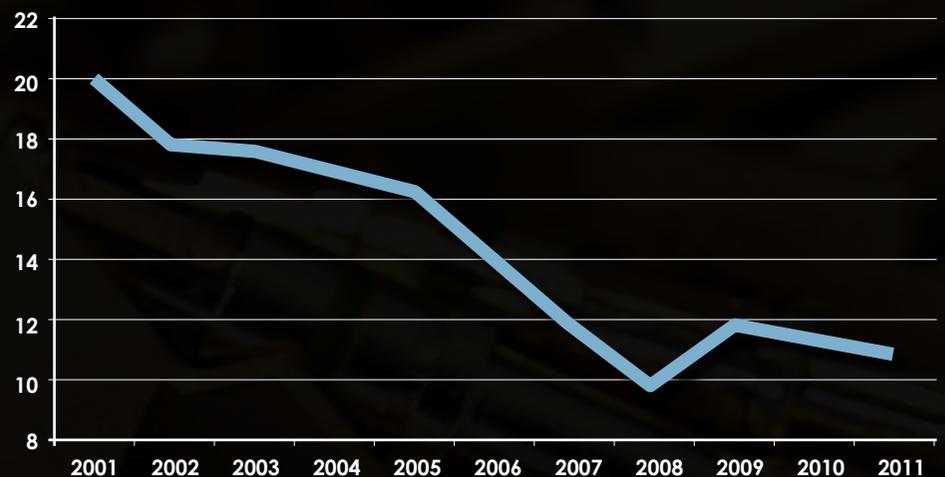


LEADING BY EXAMPLE: GOLD MINE OPERATIONS AND PROJECTS IN EUROPE

Showing the path: the Scandinavian example

Kittila Gold Mine operated by Agnico Eagle and located in northern **Finland** is not only the largest gold mine currently operating in the European Union, it is also a prime example of a **win-win situation between mining and tourism**. With the construction followed by the opening of the mine in 2009, unemployment in the municipality dropped from around 20% in 2001 to below 10% and the mine employees contributed to the recent population growth. The mine and the Levi ski resort benefit from each other's activities and coexist in harmony. Together, they offer versatile job opportunities in Kittila. The Ski Resort is an obvious attraction in the recruitment of the mine personnel who uses this touristic facility year-round. The mining company is actively supporting the Levi Ski Club Sports Academy as well as the local upper secondary school.

Kittila unemployment rate



Finland benefits from the vitality of other mining companies. Dragon Mining, a Nordic gold producer, operates two gold mines in Finland as well as a processing plant producing gold concentrate. All together these activities have created hundreds of direct and indirect jobs. Dragon Mining is also active in **Sweden**, the second largest gold mine producer in the Europe Union, where it operates a gold mine and processing facility in the north of the country.

New Boliden, one of the largest European mining companies, produces gold together with other metals in polymetallic mines located in Sweden. More significant is the fact that Boliden produces gold from both mining and recycling, highlighting the complementary nature of primary and secondary raw materials.

Unlocking southern Europe's Mineral Potential

Turkey: leading European Production

In less than 13 years, **Turkey** has become Europe's largest gold producer. While no gold was mined in 2000, Turkey now produces more gold than all the EU Member States together. An investor-friendly policy, coupled with a stable regulatory framework and high environmental standards, was a key factor for this success. Today, modern gold mines run by the companies Koza Gold or Tüprag, a subsidiary of Eldorado Gold, are real pillars of the regions where they operate by providing high-quality jobs in remote areas and fostering local development through voluntary schemes to help communities in the areas of education, health, agriculture, recreational activities and culture. This success story is not about to end as geological modelling and exploration predict further increases in gold reserves.



Mining & Agriculture

At Kisladag, over the six year period that the mine has been in operation, the support for local agricultural initiatives has resulted in crop production increases between 90% and 360%. Local livestock has increased 230% and total bee hives in the villages surrounding the mine increased 135% from approximately 300 hives in 2006 to approximately 700 hives in 2011. At Efemçukuru mine, 11 200 vines have been planted thus helping local farmers to create a new sustainable industry: winemaking in an area with ideal climate and soil conditions suited to grape cultivation.



Better health & education

At Ovacik, the village's Elementary School building as well as sports' installations were renovated in a joint project with the public authorities. Local health infrastructure also benefited from the mine's support.

Contributing to the economic recovery in Spain and Greece

Though mining is not a silver bullet, the development of new mines should be part of the solutions which will drive countries, like Spain, Greece or even Portugal, towards economic recovery. Recently, **Spain** saw the re-launch of a gold-copper mine operating in a geological area mined for centuries. New mining projects, such as in Corcoesto, would bring additional growth opportunities in areas suffering from high unemployment.

Greece has amongst the greatest gold mining potential in Europe. Sustainable exploitation of its reserves could result in significant job and wealth creation beneficial to both workers and the country. It is estimated that bringing the Cassandra mines complex into operation will result in the creation of 1200 direct jobs and up to three times as many indirect jobs. The project developer, Eldorado Gold, has committed to implement throughout the lifetime of the operations a variety of voluntary schemes such as financing fire-fighting and sponsoring education. Some of these initiatives have already started. At Olympias, Eldorado operates one of Greece's largest plant nurseries. The company is presently cleaning up over 2.4 million tonnes of tailings left by a previous owner. When complete, 30 hectares of the Olympias valley will be returned to a green-field state and given back to the local community.



LEADING BY EXAMPLE: GOLD MINE OPERATIONS AND PROJECTS IN EUROPE

When history meets modernity: gold mining in central and eastern Europe

Gold has been mined in Central Europe since antiquity. Modern day gold mining projects could make the precious metal shine again in those regions.

Chelopech gold / copper mine enabled **Bulgaria** to become the third largest gold mining producer in the EU and contributed to reinforce the view that mining is a major source of exports and economic growth for Bulgaria's economy. Dundee Precious Metals, who operates this mine, has launched a number of community projects to support infrastructure, sports, culture and education. For example, the company is fully-funding a Private English Language School which offers concrete opportunities for higher education and rewarding careers and has established, together with a local mechanical school, a mining Training Centre for vocational training.

In **Romania**, Rosia Montana, where gold has been mined since Roman times, could well benefit from the opening of the largest gold mine in Europe. Currently at permitting stage, the project aims to build a modern mine, using best available techniques. Beside significant job

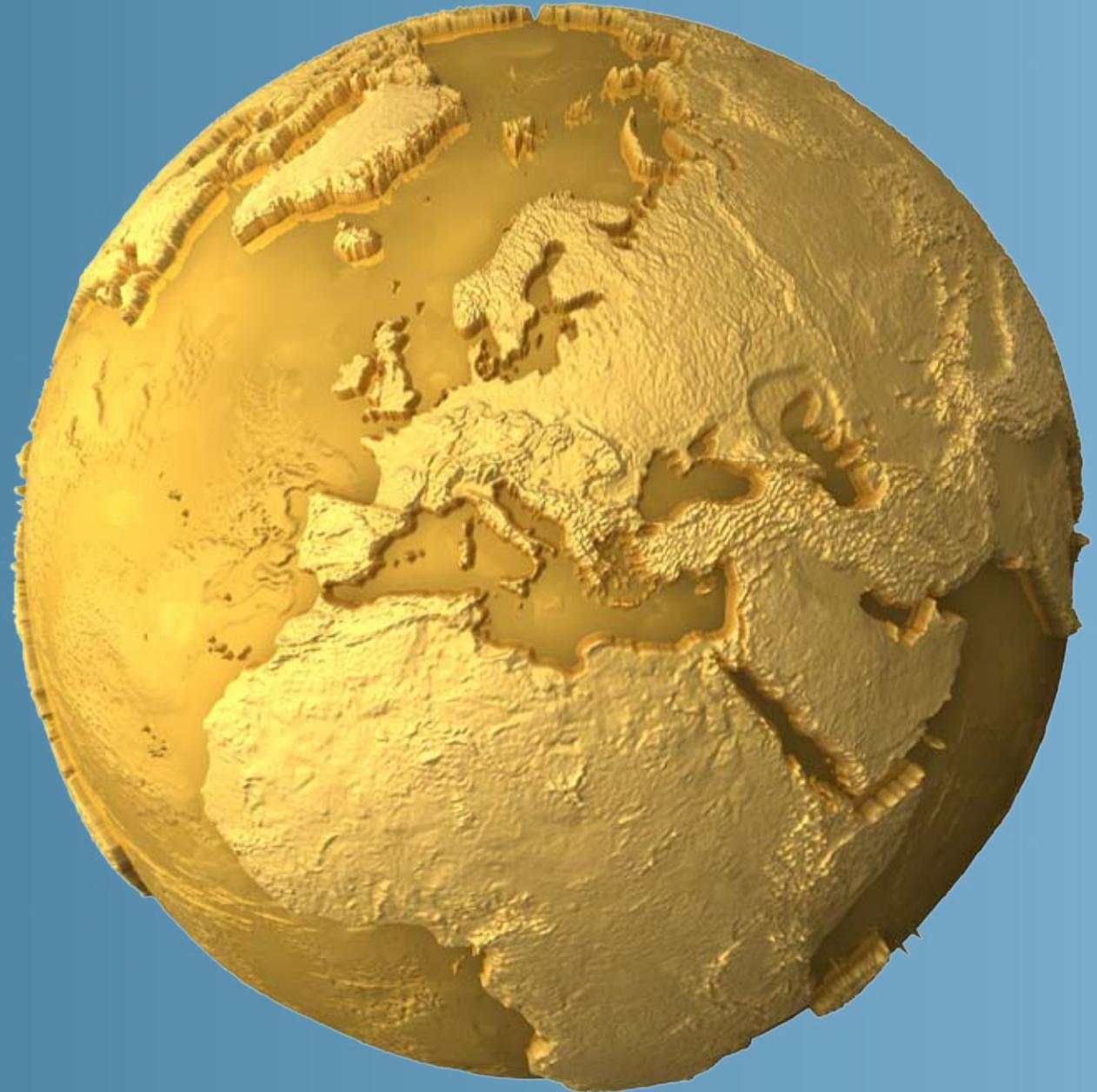
creation reaching in excess of 3600 direct and indirect jobs during the operation phase and very substantial benefits for Romania through direct investments and taxes, the company, Rosia Montana Gold Corporation, proposes to implement a vast number of actions for community development, environmental remediation and restoration of cultural heritage.

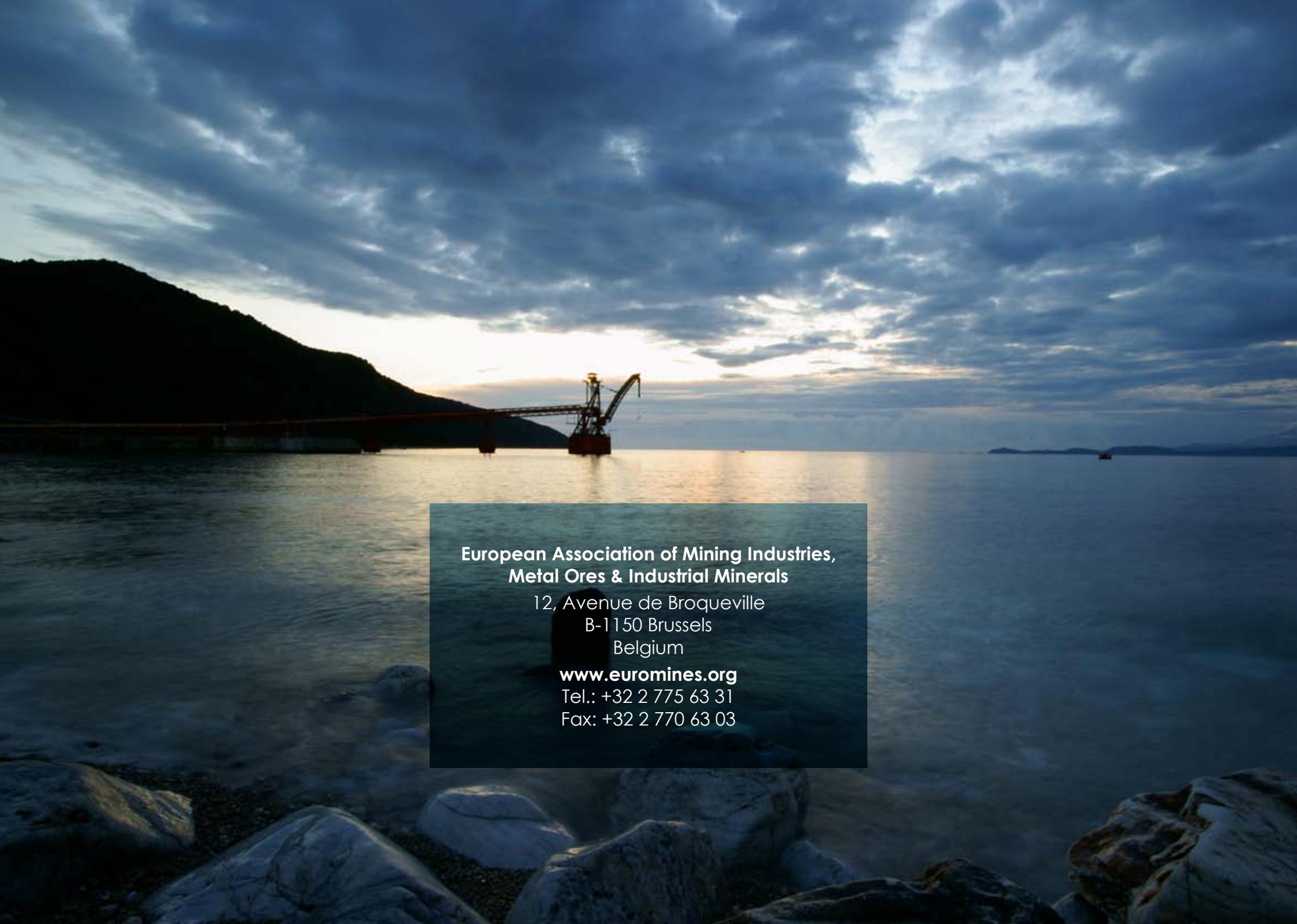
Slovakia could also benefit from the re-birth of its gold mining industry thanks to exploration projects in the central part of the country, such as the Biely Vrch gold deposit discovered by EMED Mining or the Sturec deposit developed by Ortac Resources.

Perhaps more significant is the fact that a number of these projects are located in regions which have a genuine mining tradition. Should these projects progress to production, they will not only boost the economy but also become a symbol of a regained pride for communities of miners whose families lived for centuries from the gift of natural resources and make ancient history, a reality again.

**Euromines is grateful to the following companies
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