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# How MOGI and SAMM companies can do an Amazon

## Electronic marketplace for MOGI and SAMM companies

There are two kinds of industries in the commodity sector of minerals, metals, oil and gas – the first minerals, oil and gas integrated (MOGI) companies and the second, Stand Alone Minerals and Metals (SAMM) companies. MOGI companies have a number of verticals and horizontal (multiple produce, products and value chains) while SAMM companies have one or more verticals (one or two produces and their value chains. We will talk about them in more details later.

### WHY NOT?

Interestingly and rather surprisingly, there has not been an effort to make an Amazon like company for the minerals, oil and gas and their derivatives. But, there is a huge scope. The value chain of these commodities are huge, not less than 10 trillion dollars globally- starting from permits/approval, exploration, construction, production, transportation, refining, bulk and retail trading, logistics, insurance, legal affairs and many more.

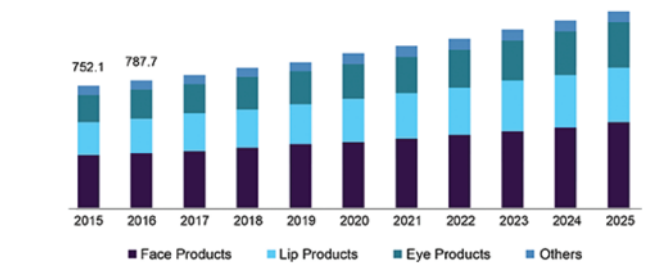
Let us use an example: requirements of minerals in agriculture. The composite figure will give you an idea. A total of 41 mineral commodities are used by agriculture for the manufacture of fertilizers, pesticides, soil amendments, and animal feeds, and for food storage and processing. Common four key agricultural minerals are phosphate, potash, gypsum and zeolites (Courtesy: USGS). Statistics on plant nutrient consumption are generally limited to the three major nutrients N, P, and K. Mineral deposits of N are limited largely to  $\text{NaNO}_3$  – one of the oldest N fertilizers used—and very small amounts of  $\text{KNO}_3$ . Potassium (K), often referred to as potash ( $\text{K}_2\text{O}$ ), is required by plants in large quantities because it is essential to the complex biochemistry of plant growth. This is more or less common knowledge. But many of you may not be able to appreciate how much trace minerals help in aquaculture. The fish requires iron, copper, manganese, zinc and selenium as components of body fluids, cofactors in enzymatic reactions, structural units of non-enzymatic macromolecules, etc. (Table 1).

Or consider the minerals required in the cosmetics industry. Currently, many medicinal or cosmetic products are based on minerals such as smectite (smecta), kaolinite, sulphur, halite, sylvite, kieserite, talc and many others. The global mineral cosmetics market size was valued at USD 2.9 billion in 2018. The rising demand for natural beauty products is driving the market over the world. As a result, the manufacturers have been introducing makeup products made of natural minerals including zinc oxide, iron oxides, titanium dioxide, organic oils, and mica powder.

## MOG shipping insurance market

Take the global minerals, oil and gas (MOG) shipping insurance market. Marine cargo insurance relates to insurance of cargoes while they are being transported (with incidental

U.S. mineral cosmetics market size, by product, 2015 - 2025 (USD Million)



Global Mineral Cosmetic Market, by Region 2020-2027

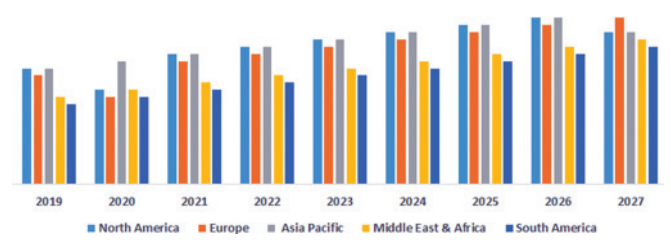


Fig.1: Market for minerals in the cosmetic industry

TABLE 1

Trace minerals	Biological function	Dietary sources
Iron	Iron is essential for the production of haemoglobin, myoglobin, cytochromes and many other enzyme systems. Iron is one of the primary metals involved in lipid oxidation.	Rich dietary sources of iron include; blood meal, kelp meal, coconut meal, meat and bone meal, sunflower seed meal, dried distillers soluble alfalfa meal, crab meal etc. Recommended Doses: 70 mg/kg of feed
Zinc	Metabolism of lipid, protein, and carbohydrate. Active in the synthesis and metabolism of nucleic acids (RNA) and proteins. Action of hormones and in wound healing. Reduced viral penetration inhibits proteases involved in viral capsid formation and increases antibody production.	Chick hatchery meal, dried Candida yeast, dehydrated fish soluble, dried distillers grains with soluble etc. Recommended Doses: 90 mg/kg of feed.
Manganese	Manganese functions as an enzyme activator; The manganese is essential for bone formation, regeneration of red blood cells, carbohydrate metabolism, and the reproductive cycle. It repairs and maintains epithelial tissues, bone formation, urea synthesis, amino acid metabolism and glucose oxidation.	Kelp meal, rice bran, dehydrated poultry manure, palm kernel meal, crab meal, wheat bran etc. Recommended doses: 45 mg/kg of feed
Copper	Copper participates in hematopoiesis, copper-dependent metalloenzymes responsible for oxidation-reduction and in the absorption and metabolism of iron, formation of the pigment melanin and skin pigmentation, bone formation, nerve fiber.	Fish soluble, corn distillers dried soluble, dehydrated sugar cane molasses corn gluten meal, linseed meal, soybean meal, dried brewers grains, wheat mill run, millet, etc. recommended doses: 9 mg/kg of feed
Cobalt	Red blood cell formation and the maintenance of nerve tissue, an activating agent for various enzyme systems. synthesis of vitamin B12	Copra meal, linseed meal, dried brewer's yeast, fish meal, meat meal, cottonseed meal, and soybean meal etc. Recommended doses: 0.9 mg/kg of feed
Iodine	Iodine is an essential component of thyroid hormones important in regulating the metabolic rate of all body processes. It has roles in thermoregulation, intermediary metabolism, reproduction, growth and development, hematopoiesis, and circulation and neuromuscular functioning	All food stuffs of marine origin, and in particular seaweed meal, marine fish and crustacean meals etc. Recommended doses: 4.5 mg/kg of feed.
Selenium	Protects cells from deleterious effects of peroxides. Selenium acts along with vitamin E to function as a biological antioxidant to protect polyunsaturated phospholipids in cellular and subcellular membranes from peroxidative damage. Zinc functions as a cofactor in several enzymes, makes stress-free	Dehydrated fish soluble, fish meal, dried brewer's yeast, corn gluten meal, dried torula yeast, rapeseed meal, etc. Recommended doses: 0.19 mg/kg of feed.
Chromium	Chromium is associated with the glucose tolerance factor, an organometallic molecule that potentiates the action of insulin, important in carbohydrate metabolism.	Chick shell meal, shrimp tail meat, artemia salina, dried brewer's yeast, shellfish, liver, etc. Recommended doses: 0.7 mg/kg of feed.

storage) not only by water (sea/river) but also when they are being transported by air, road/rail, post parcel, courier or any combination of the above. The global marine insurance market, dominated by minerals, is set to grow by USD 4.2 billion between 2020 and 2025, accelerating at a CAGR of about 3% during the forecast period.

The market is segmented by product (cargo, hull, offshore energy, and marine liability) and geography (Europe, APAC, South America, MEA, and North America). Additionally, the impact of technological development,

especially information technology, on the insurance industry is phenomenal. Delivery systems for insurance products have become much more sophisticated. In contrast to the personal one-to-one approach of brokers with underwriters nowadays the shipowners have direct access to information on availability of insurance cover and terms and conditions of cover from all over the world and decide on the insurer who is best suited to the interest of the shipowners. The hardware and software of this technology is an opportunity.

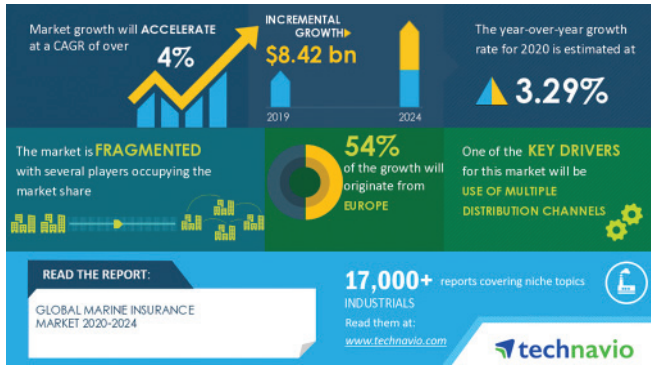


Fig.2: The marine insurance market (source: technavio)

### Mineralsmarket for pharmaceutical industries

Although the market volume for pharmaceutical minerals is small, the added value is substantial, since the price of pharmaceutical grade minerals may be up to ten times that of the same minerals dedicated to other uses. This is because pharmaceutical minerals must meet the strict chemical, physical, and toxicological specifications set out all over the world. Purification treatments, such as particle size fractionation, thermal treatment, and acid activation, improve the physical and physico-chemical properties of the minerals in question.

The majority of crystalline substances, used as either active ingredients or excipients, are synthetic analogues of the naturally occurring minerals (Carretero and Pozo; next issue). The few natural minerals that feature in pharmaceutical applications are there because they are abundant and inexpensive (e.g., calcite, halite, gypsum), or because their synthesis is complicated and costly (e.g., clay minerals).

#### CLAY MINERALS

The enormous surface area, surface chemistry and surface charge impart significant and unique physical properties to the clay minerals, owing to which these possess tremendous scope to be utilized as therapeutic, cosmetics, functional, inert and bulk agents.

- Most commonly employed clay minerals in pharmaceuticals and cosmetics are kaolinite, talc, montmorillonite, saponite, hectorite, palygorskite and sepiolite.
- Precisely clay minerals serve as lubricants, desiccants, disintegrants, diluents, binders, pigments and opacifiers. The other imperative one are emulsifying, thickening, isotonic and anticaking agents.
- The predominant curative properties include antacids,

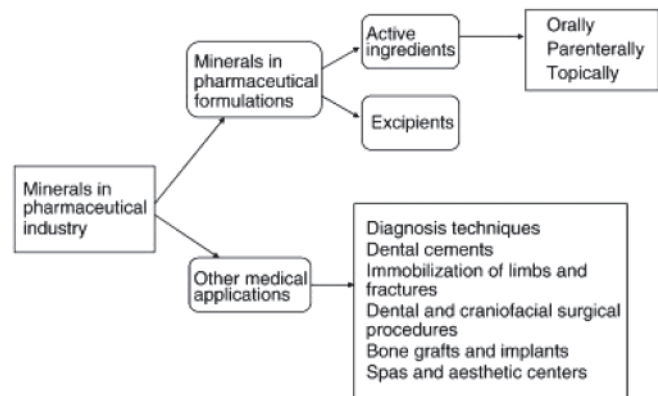


Fig.3: Minerals market in pharmaceutical industry

gastrointestinal protectors, antidiarrheals, laxatives, homeostatics, emetics, antianemics and so on.

### Minerals market for renewable energy industry

The transition towards a renewable energy and transport system requires a complex mix of metals – such as copper, cobalt, nickel, rare earths, lithium and silver – many of which have only previously been mined in small amounts. Under a 100% renewable energy scenario demand for these metals could rise dramatically, and require new sources of primary and recycled metals. The renewable energy space is now classified as:

- Low-carbon power generation: solar PV, wind, other renewables and nuclear;
- Electricity networks;
- Electric vehicles and battery storage;
- Hydrogen (electrolysers and fuel cells).

International Energy Association (IEA) says EVs and battery storage account for about half of the mineral demand growth from clean energy technologies over the next two decades, spurred by surging demand for battery materials. Mineral demand from EVs and battery storage grows tenfold

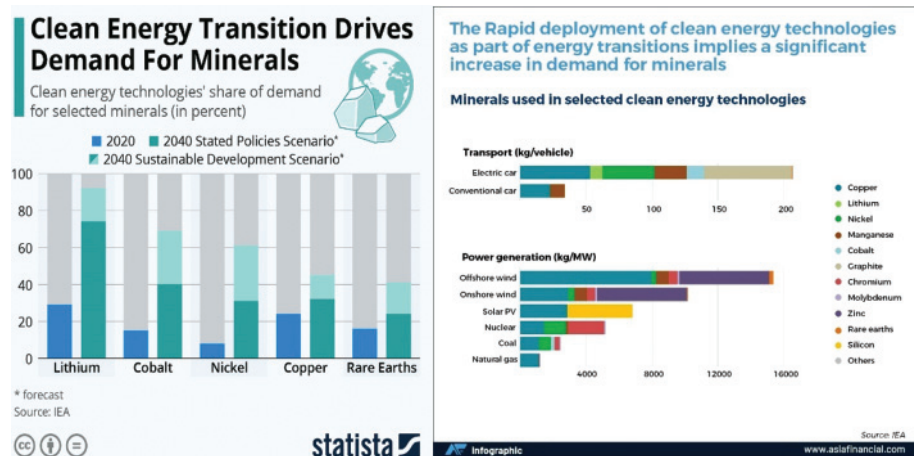


Fig.4

over the period to 2040. By weight, mineral demand in 2040 is dominated by graphite, copper and nickel. Lithium sees the fastest growth rate, with demand growing by over 40 times from the current level. The shift towards lower cobalt chemistries for batteries helps to limit growth in cobalt, displaced by growth in nickel.

The process of bringing a raw mineral to the consumer market involves multiple actors and generally includes the extraction, transport, handling, trading, processing, smelting, refining and alloying, manufacturing and sale of end product. The term supply chain refers to the system of all the activities, organizations, actors, technology, information, resources and services involved in moving the mineral from the extraction site downstream to its incorporation in the final product for end consumers. All these provide business prospects. The future demand for specific metals is not only a function of the degree to which countries commit to a low-carbon future, it is also driven by intra-technology choices. The low-carbon technologies that emerge as most applicable and beneficial, will play an important role in defining the commodity marketplace of the next 50 years. For example, the three leading forms of alternative vehicles – electric, hybrid, and hydrogen – each have different implications for metal demand: electric vehicles require lithium; hybrid vehicles use lead; and hydrogen-powered vehicles use platinum. Demand for individual metals and minerals will reflect the component mix of low-carbon technologies, corresponding with economic changes and technical developments. To position themselves well, countries will need reliable sources of economic data and market intelligence, as well as the capacity to turn that information into plans, investments, and sustainable operations.

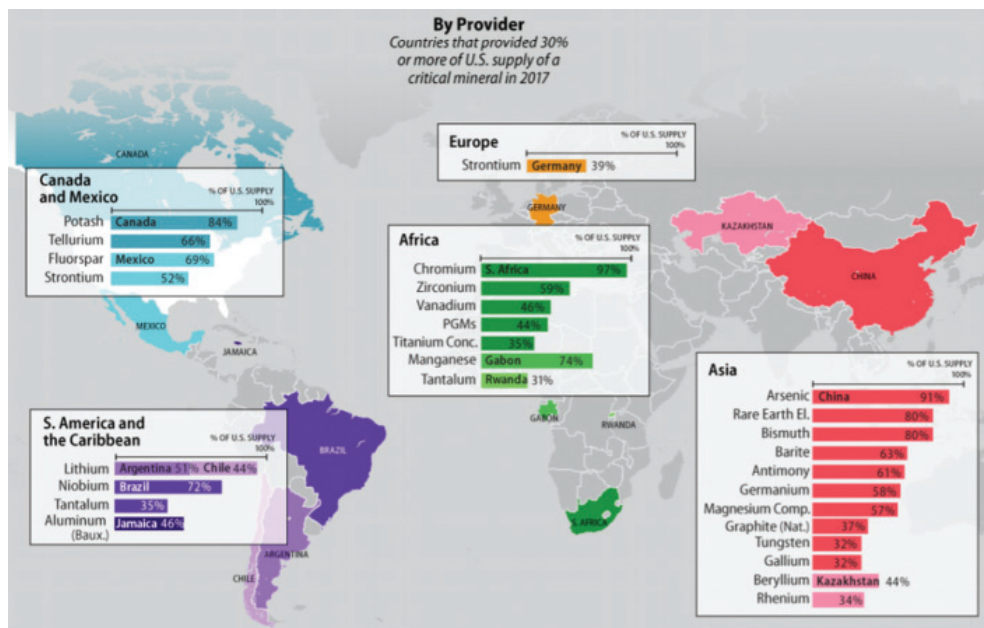


Fig.5

## Types of electronic marketplaces for MOGI and SAMM companies

E-MARKETPLACES FOR MOGI AND SAMM WILL FALL INTO THREE MAIN GROUPS

1. Vertical marketplaces present multiple vendors that specialize in the same niche. For example, Coal India, Peabody, Nalco, Shell, Saudi Aramco can come to this grouping.
2. Horizontal marketplaces sell goods in several categories that are united by a certain common characteristic. For example, a commodity minerals seller selling to various customers in various category. For example, the companies selling salt, stone, lime to various non-aligned customers.
3. Global marketplaces sell almost everything to everyone. Adani, Vedanta, Ultratech and Rio Tinto have a wide range of product categories and vendors that can enter to various vertical and horizontal marketplaces at the same time.

The marketplace, transportation and logistics, permitting, warehousing, clearance, insurance and other value added innovative linked services can be provided by the marketplace. Industry professionals will provide sophisticated services like guidance, consultancy, estimation and health safety services.

E-MARKETPLACE SERVICES

Generally, an E-marketplace offers the following services

1. seller subscriptions/memberships
2. commission on products/produces sold
3. referral fees/lead generation revenue
4. featured listings
5. affiliate programs
6. advertising
7. freemium packages (with extra paid services)
8. Other innovated services

It should be noted that marketplace giants often have a wide array of services in addition to their marketplaces. For example, Amazon also has Amazon Web Services, Amazon Go, physical stores, and more.

### The features of a site like Amazon

Websites like Amazon are built around the same essential scope of features that help



Fig.4: Services of two market leaders  
(courtesy: company sources)

buyers and sellers reach their goals seamlessly. These include product listings, shopping cart, website search, payments, shipping, notifications, support chat, admin dashboard, and more. Each platform can have additional unique capabilities according to each customer's ideas to make a marketplace website that brings conversions. Here are the must-have features that are necessary to build a marketplace website like Amazon:

### One-click ordering

Features like Amazon's "1-Click" button for ordering are game-changers in online commerce that significantly increase its user-friendliness. Customers enter their billing, shipping, and payment information once and then they just hit one button to make an order. This one button replaces a set of actions like payment and shipment. The system waits for 30 minutes after the "1-Click" button clicks, so customers can continue their shopping and add other items.

### REGISTRATION AND USER PROFILES

There are two basic user roles on a marketplace – buyers and sellers. Accordingly, your marketplace website will need these two types of profiles where users will enter the necessary information and update it when they need to. Buyers are usually asked their names, email addresses, and passwords. They need an option to add a delivery address or a payment option. Their profiles also contain features like an easy-to-check order history and wishlist.

Sellers need to provide their company names, addresses, phone numbers, tax information, etc. They need to be able to edit many details from their account settings to payment methods.

### SWITCHING PROFILE TYPES

In answer to the question "How to make an ecommerce website like Amazon?" the following feature is very desirable but is probably not a must-have. This feature allows buyers to become sellers within the same user account. This is very convenient when they want to switch from buying to selling and vice versa. Logging in and out every time is time-consuming.

### HOME PAGE

Starting from the marketplace homepage, customers need to see a clear navigation system, product filters (by location,

price range, or other factors), relevant product suggestions based on their viewing or purchasing history, a section of last viewed or popular products, etc.

### ADVANCED PRODUCT SEARCH

Due to a wide array of products, an advanced search feature is a must for online marketplaces. For example, to help buyers find the desired things among 12 million listings, Amazon uses a searching algorithm called A9 that sorts the products by multiple aspects of the customer's behavior.

### PRODUCT PAGES

Sellers on your marketplace need the ability to easily create new products and manage them. They should provide as many details as possible (description, price, high-quality photos, availability, warranty, delivery info, etc.) Good descriptions help buyers make decisions and are also useful for SEO. To encourage sellers to enter as many details and make the process easy, you can use features like autocomplete forms, error corrections, category recommendation, etc.

### PRODUCT IMAGES

To make product images more informative and helpful for boosting sales, Amazon imposes a few image standards. For example, images should occupy 85% of the frame, have sufficient dimensions (measured in pixels), be presented against a white background color, use only the specified formats (JPEG, PNG, GIF, or TIFF), etc. You will also need to apply image optimization techniques to make all the uploaded images look consistent and never slow the website down. Marketplaces like Amazon often use a photo slider that shows the product with all its details.

### PRODUCT VIDEOS

E-commerce product videos are able to show products from more angles, which makes them a lead generation technique that is on the rise today. So one of the answers to the question of how to build a site like Amazon is to offer a video option for your vendors.

### WISHLIST

Be sure to include a wishlist as a key marketplace feature that increases user engagement and promotes sales. This is a wishlist allows customers to save the goods they like and share their wishlist with their friends and family.

### ADMIN DASHBOARD

Your marketplace administrator needs a multifunctional dashboard to customize plenty of settings like shipping and payment methods, listings, filters, categories, and so on. Admin also gets messages from the contact forms.

### RATINGS AND REVIEWS

Customers widely rely on ratings and reviews while making purchases. Not every e-commerce website has them but marketplaces always do. In order to make sure reviews

are honest, your marketplace will need features like IP address check and reviews acceptance only from registered users. Amazon has a Feedback Manager where sellers see feedback for 12 months and for the current day, and are able to reply to the reviews or ask buyers to remove incorrect feedback.

#### SHOPPING CART

Shopping cart is the place where buyers store their products before the final purchase. They need to be able to easily view and change the product details – like the number of goods – as well as delete some items. All the purchase information should be clearly stated in the shopping cart (shipping prices, fees or discounts, payment methods, etc.)

#### SHIPPING OPTIONS

With the shipping feature, your marketplace customers can choose the best delivery option offered by the vendors. On Amazon, vendors can choose whether to ship it themselves or use Fulfillment by Amazon. Vendors can also manage the shipping details like shipping zones.

#### EASY CHECKOUT AND PAYMENT OPTIONS

Reduce the checkout abandonment by making it extremely easy to perform the needed steps. This included a few best practices as follows. Minimize the required fields, create clear and prominent CTAs, show payment security proof, and allow

no-sign up payment. Of course, payment options need to be varied. The big mistake of many marketplaces is to use PayPal only. You need to consider specific region payment preferences instead.

#### PAYMENT RECONCILIATION

Another answer to the question of how to make a multi vendor ecommerce website is that it needs reconciliation reports. This helps sellers compare internal payment records with external ones such as bank records to be sure they match and there are no inconsistencies. Amazon recommends that sellers check them daily.

#### NOTIFICATIONS

Sellers receive a number of notifications that they can customize, and can switch on and off according to their preferences. Among them are notifications about orders, refunds, reports, account changes, tips from Amazon, and so on. This helps them always keep their fingers on the pulse.

#### ORDER REPORTS

On the reports page, sellers should be able to view reports on their orders (fulfillment status, sales channel, item details, and more). On Amazon, they can view both FBA orders (Fulfillment By Amazon, or the services of storage, packaging, and shipping assistance) and orders fulfilled by themselves.

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## WHAT MAKES THE BOARD OF DIRECTORS OF A MINING COMPANY WITH ESG MANDATE

*(Continued from page 101)*

#### THE HUMAN ELEMENT

The key is not as much as it is social. The most involved, diligent, value-adding boards may or may not follow every recommendation in the good-governance handbook. What distinguishes exemplary boards is that they are robust, effective social systems.

#### FINAL WORDS

As mining companies face financial pressures from many sides resulting from the pandemic, those that take a broader view of their long-term strategy, including responding to ESG issues, may be in a better position to confront these challenges. While making it through the immediate crisis must be the first priority, boards can also take this opportunity to shift the

conversation to longer-term concerns. Many mining companies will emerge from the crisis looking different. Now may be the time to work out how to incorporate issues like climate change and income inequality into the organization's strategic goals—particularly as these topics remain top of mind for investors focused on the long-term viability of their portfolio companies. For companies that have traditionally focused on the narrow question of financial performance quarter to quarter, 2022 may offer the inflection point to consider the broader, long-term context.

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Text Reference: <https://hbr.org/2002/09/what-makes-great-boards-great>, <https://www.pwc.com/us/en/services/governance-insights-center/library/esg-corporate-directors-guide.html>

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