

Industry in focus: Copper

A supplier's guide to taking
advantage of surging demand



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Soaring demand for the red metal

More than any other base metal, copper is an essential component across almost every industry and throughout our day-to-day lives. Applications for 'the red metal' are so ubiquitous that demand for copper is always high. And demand is set to increase even further as more of the world becomes industrialised and technology permeates nearly everything we do.



The global copper market is anticipated to reach **US\$171.96** billion by 2023, expanding at a **CAGR of 4.9%**¹

The power of infinite recyclability

Setting aside its formidable resilience, longevity and conductivity, one of the most powerful attributes of copper is its infinite recyclability. And that gives it even more value in a world where environmental concerns and sustainability issues are at the top of legislative and corporate agendas.

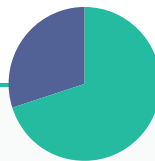
Copper will be an essential material for creating a sustainable future for our planet, bringing more new applications for this versatile metal – and more buyers into the market.



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Capitalising on growing demand

New opportunities are emerging as demand grows from many sources and buyers look for additional suppliers to help mitigate supply chain volatility. But suppliers can only take advantage of these new opportunities for revenue growth if buyers can find them.



Two-thirds of the copper produced since 1900 is still in productive use²

² *Dynamic analysis of global copper flows. Global stocks, postconsumer material flows, recycling indicators, and uncertainty evaluation.*, Glöser, Soulier, Tercero Espinoza, 2013: <https://www.ncbi.nlm.nih.gov/pubmed/23725041>

Copper: A vital supply line for a sustainable future

The global drive towards more sustainable ways of living and working will lead to a huge increase in demand for copper. Here we look at five of the key areas that will see accelerated demand over the next few years.

- Electric vehicles
- Electricity production and distribution
- Water supply
- Public health
- Sustainable architecture



Electric vehicles

Electric vehicle (EV) technology relies on copper for key components, as well as the charging infrastructure that will make EVs a viable replacement for fossil-fuel vehicles.

The EV market will grow rapidly over the coming years as the result of a huge global effort to shift to a low-carbon economy. There's growing public pressure – and an increasing political will – to remove fossil fuels from the transport equation altogether.

EVs need more copper



Internal combustion engine



Hybrid electric vehicles



Plug-in hybrid electric vehicles



Battery electric vehicles⁴



There are around **1 million** electric vehicles in use today...
...by 2035, there will be **140 million**³

³ https://investingnews.com/daily/resource-investing/base-metals-investing/copper-investing/bhp-billiton-electric-car-boom-copper-shortage/?as=1&nameplate_category=Copper+Investing



Electricity production and distribution

Emerging economies across Africa and Asia are becoming increasingly industrialised and beginning to connect previously isolated communities to power grids. This growing electrification will add significantly to the massive global demand for copper components to create efficient power generation, storage and distribution infrastructures.

Add to this the strong global investment in renewable energy (wind farms and solar energy systems both rely heavily on copper to help collect, store and distribute energy) and it's easy to see a growing role for copper in the future of power supply.

A more efficient alternative to aluminium power lines

Recent research shows that micro-alloyed copper conductors could increase the efficiency and capacity of high-voltage overhead lines traditionally made from steel-reinforced aluminium or aluminium alloys.

Rethinking wiring and cabling with ultra-conductive copper

Another research project has developed a form of ultra-conductive copper to reduce the size, weight and resistance of electrical wiring and cabling applications, which account for 60% of all copper usage.



⁵ <http://copperalliance.org/2017/07/12/innovations-in-copper-micro-alloyed-copper-for-overhead-lines/>

⁶ <http://copperalliance.org/wordpress/wp-content/uploads/2017/10/Fact-Sheet-Breakthrough-Research-Leads-to-Ultra-Conductive-Copper-1.pdf>



Water supply

Many parts of the world already suffer from depleting water resources and inefficient or non-existent infrastructure. And these problems look set to spread and increase over the coming years as we witness the effects of global warming and population growth.

Copper has a key role to play in solving the burgeoning water crisis. Its corrosion resistance and durability make it an ideal alternative for traditional lead pipes, helping build resilient, contaminant-free water infrastructures for communities in need.



Giving clean water to the people of Flint, Michigan

While investigations continue into the public health impact of the infamous Flint water contamination crisis, the city continues the massive task of replacing an estimated 20,000 underground lead service lines.

Replacing the lead lines with copper will give the city a durable, long-term solution to its infrastructure problems – and give its residents a reliable supply of clean, safe water.



Copper piping is the best material to use for the service lines because it's long lasting and impermeable, so contaminants can't get into our drinking water.⁷

**Mayor Karen Weaver,
City of Flint**



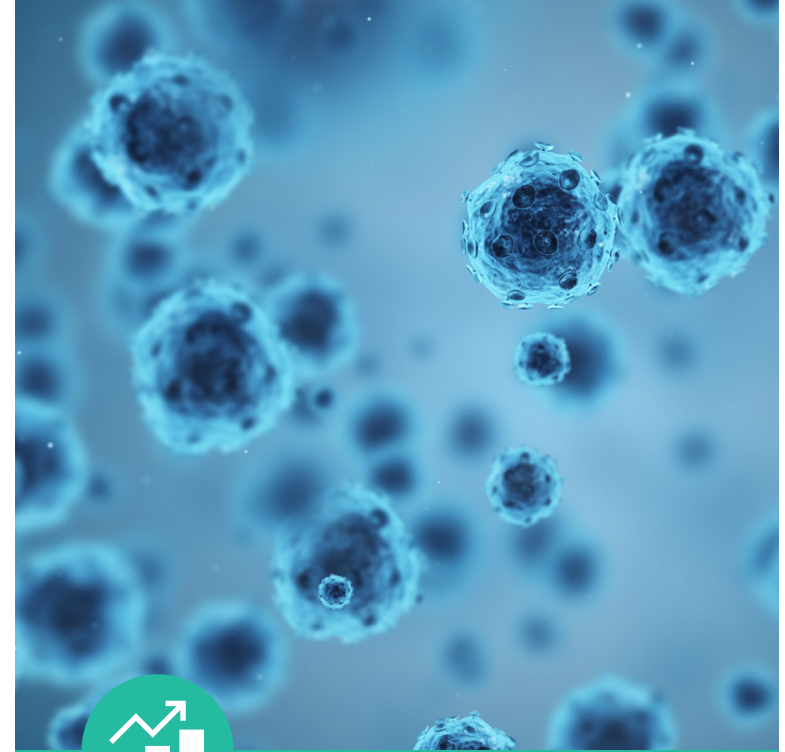
⁷ <http://thinkcopper.org/plumbing/flint-chooses-copper-to-solve-drinking-water-infrastructure-crisis/>

Public health

Copper's inherent antimicrobial properties mean it continuously kills bacteria, reducing the risk of cross-contamination and the spread of bacterial infections through contact.

Many hospitals are fitting copper components, such as door handles and water taps, to augment their hygiene regimes and help minimise the risk of infection from antibiotic-resistant superbugs like MRSA.

As the lower infection rates from antimicrobial copper surfaces become apparent, it's likely that other public spaces, such as schools and supermarkets, will see copper as a way to protect the public and reduce the expense of regularly decontaminating high-touch surfaces.



Studies have shown a **58%** reduction in infection rates with copper alloy surfaces...
...and microbial uses for copper could add **1 million** tons of demand⁹

Sustainable architecture

Copper has many uses in building construction – from facades and roofing to wiring and plumbing. The current trend towards green building will see demand rise further as copper components are used to help decrease the energy demands and environmental impact of new buildings.

Copper's durability and corrosion resistance also make it ideal for construction. Copper components reduce maintenance and repair costs by maintaining their integrity and efficacy over the lifetime of the building.



The winner of the **2017 Copper in Architecture award** was Trollbeads House in Copenhagen. It uses a perforated copper 'curtain' to mimic design elements of adjacent buildings, enabling a modern, glass-fronted office block to blend in with its historic surroundings.¹⁰

Reach new customers

There are clearly many opportunities for suppliers to sell to more customers – but how can they reach these new markets? Without insights into emerging applications, suppliers risk missing out on opportunities to take advantage of the massive growth in demand.

The new customers for copper are researching – and even buying – online. They've got access to lots of information, but little in the way of guidance for comparing materials and selecting the right ones.



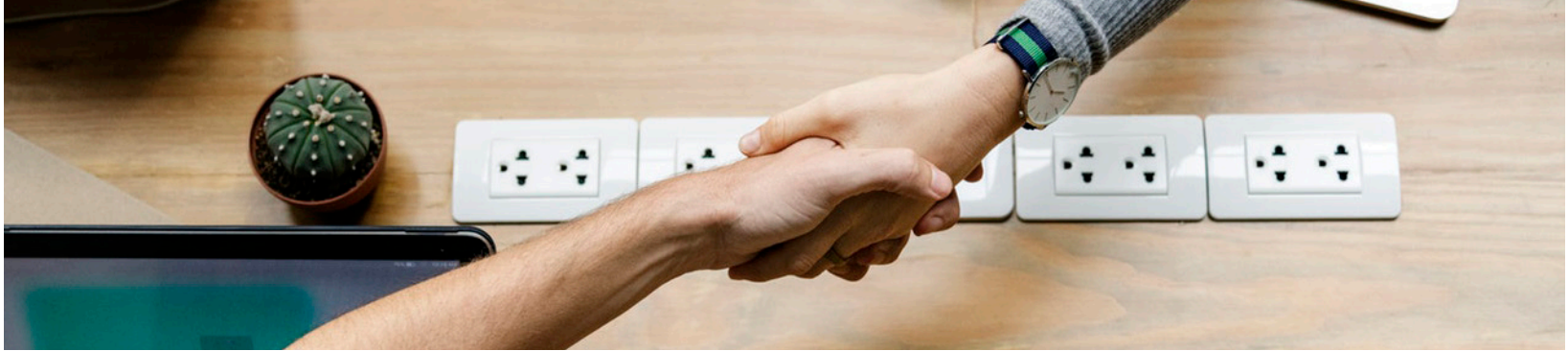
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The digital route to market

What's needed is a digital platform that allows copper buyers and suppliers to meet. For the supplier, there are all kinds of advantages:

- It's always open for business, 24/7/365, so buyers all over the world can always find the materials they're looking for.
- It's more cost-effective than traditional marketing channels, such as trade show stands or advertising space.
 - It's a simple way for new buyers to find the right supplier, giving them the guidance they need to make faster,
 - better-informed buying decisions.
- It's a source of insight for suppliers into what buyers are looking for, helping them identify the most valuable opportunities more easily.



Creating partnerships

The shift to digital interaction isn't just about finding new buyers – it's also about creating new strategic partnerships.

It's hard to become a strategic partner when you're selling high-volume products and mainly competing on price. But by using the data from digital platforms to spot companies in the R&D phase, suppliers can approach them to prototype and test new products, becoming seen as a partner, rather than just a materials supplier.

Discover, evaluate and source the best materials for your projects.

The screenshot shows a search interface with a search bar containing the text "e.g. Aluminium" and a green "Search" button with a magnifying glass icon. Below the search bar, there is a section titled "Customize your search with filters" which contains four filter categories, each with a plus sign icon:

- Application**: Manufacturing (284), Lighting (169), Industrial furnaces (167)
- Material property**: Tow tensile strength, Compressibility factor, Vicat softening temperature
- Material category**: Metal (81433), Polymer (216), Composite (151)
- Form**: Bar (2091), Sheet (1661), Forging (1123)

Introducing Matmatch

The Matmatch platform links buyers of materials with suppliers. From manufacturing procurement teams and product designers to academics and engineers, Matmatch puts suppliers in front of new buyers looking for viable materials for all kinds of projects.

Matmatch streamlines the material sourcing and design process, bringing material selection into the digital age. Buyers can source exactly the right materials for their specific needs – customising their search for everything from material properties to supplier location – and suppliers can access an expanded pool of potential customers.

But Matmatch offers more than just a digital platform. Our materials experts and specialists help buyers make decisions, and the data we gather helps suppliers identify new target segments that may otherwise go unnoticed.



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With Matmatch, you can:

Establish a new route to market, without a huge marketing outlay

Find new buyers who wouldn't normally see your marketing

Identify high-quality leads from customers in active buying mode

Create strategic partnerships with companies in the R&D phase

Uncover emerging trends and find new applications for your products

Reinforce your reputation as a trusted supplier and partner



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Learn more

To find out more about how we can help you expand your reach and take advantage of emerging opportunities, visit us at matmatch.com/supplier.

And if you'd like to discuss your own challenges and opportunities with one of our experts, get in touch at info@matmatch.com.

About Matmatch

Matmatch builds powerful digital tools for the industrial goods industry. Our team combines experts in material science with technologists who have brought brilliant digital products to market.

The Matmatch platform gives you an exciting new route to market, helping you promote your products to new customers, establish your expertise in specific application areas, and access advanced customer analytics to drive high-quality sales leads.