



CFCM: Copper Fabricators Competitive Monitor

Year 2025 - # 122 – Excerpt for UPCAST

Shifting perspective: In an interview with Cu2 Consulting, Janne Hosio, Managing Director of UPCAST, defines its company's role, positioning, and strengths and outlines his market view and outlook.

The first CFCM interview of 2025 marks a notable shift as it explores a fresh perspective to look at the copper market. Until now, our interviews have primarily focused on various players across different stages of the copper value chain - from upstream producers to fabricators of copper semi-finished products, and, more downstream, to distributors and key end-users like TE Connectivity and Lu-Ve.

This time, we break new ground by interviewing an equipment supplier to the copper industry, granting us unique insights into demand and market outlook from a different vantage point.

We are pleased to present this perspective through an interview with UPCAST OY, a European company that stands as the undisputed leader in its specialized field of upward continuous casting.

While UPCAST is well-known in the industry, it's worth briefly revisiting its history. Founded in Pori, Finland, the company has been a pioneer in upcasting technology since the late 1960s, when it was part of the Outokumpu Group. It became an independent brand and company in 2006, following Outokumpu's gradual exit from the copper sector - a transition that started in 2005 and concluded in 2008.

Today, UPCAST OY exports vertical continuous casting lines from Pori to markets worldwide and operates within an expanding sector.

In this interview, Janne Hosio, Managing Director of UPCAST OY since March 2022, shares insights from his 20+ years of industry experience, which started with Outokumpu Castform Oy in 2001.

Our conversation explores UPCAST's strengths, its diverse product range extending beyond copper wire rod and tubes, its ongoing innovative projects, and the prevailing market conditions and medium-term forecasts seen from their perspective.



Janne Hosio – Managing Director of UPGAST OY

Photo courtesy of UPGAST OY

UPCAST is the undisputed leader in its sector, with an extended global reach, an impressive 90% of sales generated outside Europe over the last two years, and over 200 lines installed across five continents. What key factors do you attribute to this outstanding market position and growth?

Our innovative technology is, of course, one of the key factors essential for any successful equipment supplier. However, at our core, we are more than just a machine supplier; we provide the ability to produce exactly what our customers need, with a focus on reliability and competitive cost.

Success is the sum of many factors, and to mention a few, it is through these that we have made it possible:

1. **Technology** – Our commitment to cutting-edge equipment design, robust construction, and innovative process development ensures that we

consistently meet and exceed customer expectations.

2. **Experience and Committed Team** – Beyond just know-how, we bring deep expertise and an understanding of the process, allowing us to provide tailored solutions with lasting impact.
3. **Environmental Responsibility** – We aim to reduce the environmental footprint of both our processes and equipment while actively participating in initiatives that support the circular economy.
4. **Commitment to Service** – We treat our customers like family because we understand that their success is our success. With us, a customer is never just a client – our customers are part of a long-term partnership.
5. **Global Reach** – We operate in all markets, and our technology is flexible and suitable for a variety of needs.

Despite being the first in upward casting, other suppliers have entered the competitive arena over the years. What differentiates UPGAST from its competitors today and makes you special?

In addition to the above-mentioned factors, our history of success and strong financial foundation reinforce our position as a trusted partner. We have a solid brand and good reputation; we deliver long-term performance, ensuring customer systems function optimally for decades.

We will come back to UPGAST later. Shifting to market dynamics: the year 2024 presented both challenges and opportunities, but the electrification-related sectors that you target fared relatively well. As we have entered 2025, how do you perceive the market conditions across the sectors you serve?

Despite current market volatility, forecasts predict a rather strong increase in copper consumption over the coming years.

Manufacturers are very aware of this trend and are strategically positioning themselves through upward vertical integration, among other initiatives, to consolidate their businesses in the changing

markets. At the same time, tougher environmental regulations are pushing companies to adopt greener technologies and integrate circular economy principles into their strategies.

UPCASt is perfectly positioned as a technological partner to help them achieve these goals, providing solutions that align with both sustainability objectives and the demand for increased production efficiency.

From a product perspective, do you observe differing demand trends for wire rod and copper tube lines?

Yes, indeed. While both wire rod and copper tube lines serve important markets, we are seeing distinct demand trends due to the differing nature of these products.

Copper rod lines remain a stable and highly demanded product, driven by its well-established role in key industries such as wire and cables and magnet wire.

On the other hand, copper tube lines, representing a newer technology, have a significant growth potential as more industries shift towards sustainable solutions and innovative technologies.

Compared to conventional technologies, UPCASt copper tube lines target small and medium size capacities and allow manufacturers to respond more effectively to the specific needs of expanding markets.

In both cases, we see a strong future, with copper tube lines providing an additional avenue for expansion and technological leadership in emerging sectors.

Geographically, are there distinct patterns in demand (e.g., lively, recovering, or sluggish regions), or do customer-specific factors outweigh regional trends?

Geographical economic trends are visible and also affect our demand the most, although there are individual customer-specific exceptions.



UPCASt® double coilers coiling 25mm rod made from 100% recycled copper - Photo courtesy of UPCASt OY



UPGAST® 25,000 tpa line at Vatan Kablo, Turkey - Photo courtesy of UPGAST OY

As an example, the South American market, in general, has been rather slow for some time, but we have had projects with long-time trusted partners.

In contrast with the past four years, when most of your orders came from Asia and the Americas, the majority of lines to be delivered in 2025 are for Europe. Do you see this as a sign of improving market conditions in the region?

If we look at the past 4 to 5 years, the Americas, Europe and Asia have formed roughly 3/4 of our project sales with quite equal shares each.

For 2025 majority of the new project deliveries are indeed to Europe. While a year is too short for definitive conclusions, the European market has been improving and is currently a significant market for us.

Structurally, do the type of UPGAST lines demanded vary by region?

Not really. Structurally, the UPGAST lines we deliver are remarkably consistent across regions, as they are mainly designed to meet the universal demands for high-quality Oxygen-Free High Conductivity (OFHC) copper rod production. Widely utilized in the wire and cable industry, it also serves as the primary feedstock for the continuous extrusion process. This global trend is mirrored at the regional level.

In Europe and the Americas, including both North

and South America, as well as in the Middle East, the lines we supply are essentially the same, as the industries require the same high-performance, reliable technology.

What varies, however, is how our customers tailor their production to meet specific market needs. For instance, while the core technology remains unchanged, clients may prioritize certain capacities or additional features based on local operational or market demands.

Moreover, production costs can vary significantly by region, and this must be considered in the line configuration.

The flexibility of UPGAST lines to adapt to these preferences ensures that we can serve the diverse requirements of both established and emerging markets across regions with equal efficiency and reliability.

And what about the Asia Pacific region? You serve customers across China, Japan, South Korea, Thailand, Vietnam, and East Asia. Are there notable differences within these markets?

In the Asia-Pacific region, there may be more variation in customers and their product portfolios, and on average, the capacity of casting lines has been slightly smaller. Therefore, it is important to understand the customers' production needs in order to offer the optimal solution for each.

India, often highlighted as a growth story, stands out in Asia. How does it compare to the rest of the continent in terms of development, kind of customers and their requirements?

The previous statement applies partially to India as well, but the Indian market stands out as perhaps the most diverse and fragmented in terms of customer profiles.

The region hosts many smaller companies as well as large international corporations, resulting in a wide range of product portfolios.

Consequently, customer quality requirements and priorities vary significantly.

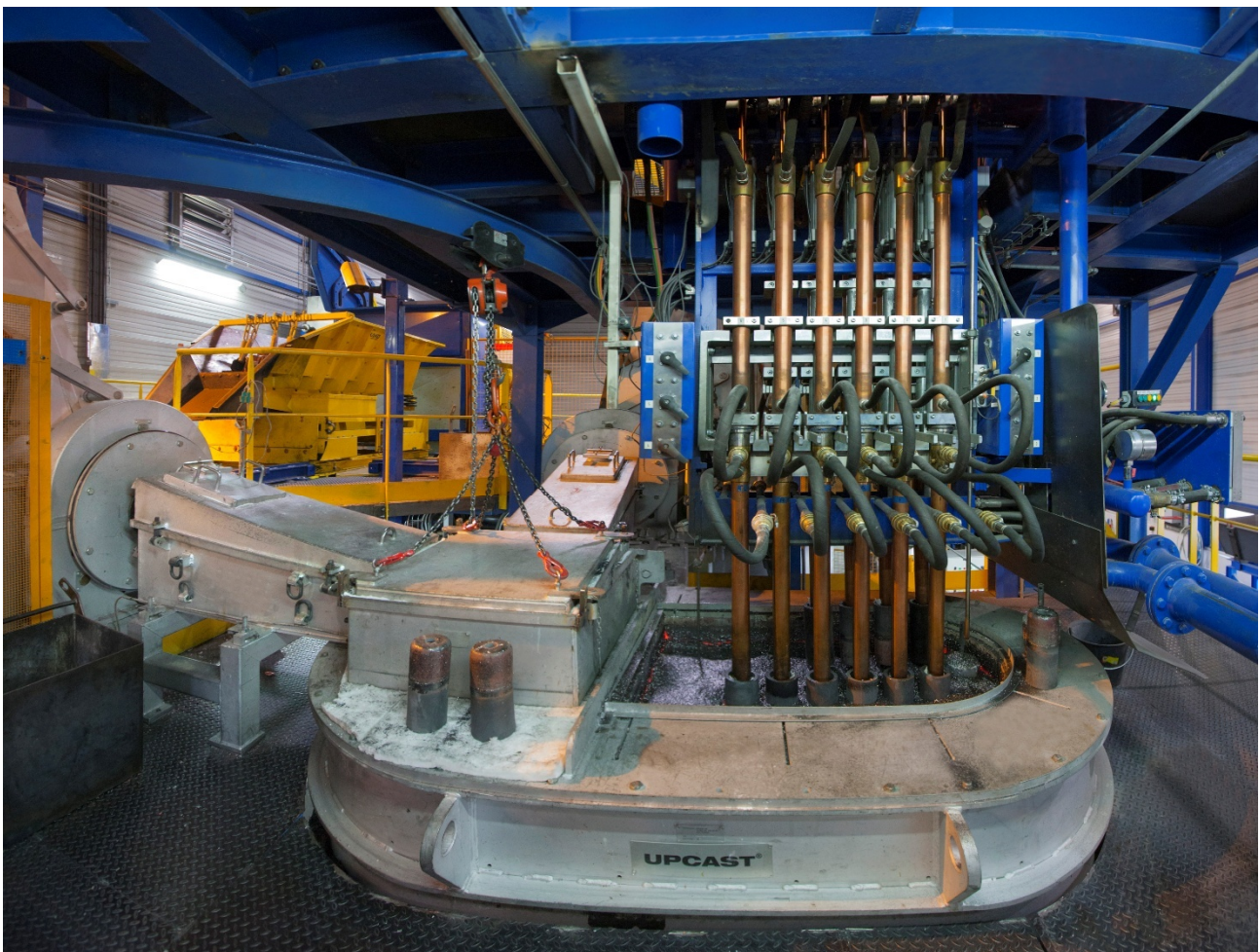
The Indian market has not been our strongest area, despite its potential, so there is room for improvement in that regard.

UPCAST also serves developing markets in Africa, from Zambia to Botswana to South Africa. Are these isolated and specific cases, or do you see interesting growth prospects in the world's least industrially developed but youngest continent?

While the mentioned cases may appear unique, they are part of a broader trend of increasing industrial activity and demand for high-quality materials in Africa.

The continent's rapid urbanization, coupled with its young and dynamic population, presents a significant opportunity for growth.

As industries across Africa evolve and infrastructure expands, the demand for high-performance materials like UPGAST Oxygen-Free High Conductivity copper rod will continue to rise,



UPCAST® casting machine - Photo courtesy of UPGAST OY



Photo courtesy of UPGAST OY

particularly in sectors such as telecommunications, power distribution, and renewable energy.

We see this as an exciting and promising area for growth, and we are committed to supporting the development of these emerging markets.

How have international sanctions impacted your business in countries like Russia and Iran?

International sanctions have naturally impacted our business in these countries. However, we remain hopeful that conditions will improve in the future, allowing for a resumption of constructive collaboration in these regions. In the meantime, we have focused on adapting to these circumstances by strengthening our presence in other markets and diversifying our global reach.

Moving on to your product range, what is the current casting line capacity that you offer?

There is no technical limit to the lower end of the casting line capacity, but the economically viable

lower limit depends on local factors like labour and energy costs in relation to other market conditions. Typically, the lower end starts from around 4,000 tpa for both rod and tube.

Depending on the cast size, the capacity of rod lines can reach even up to 40,000 tpa, while tube lines reach up to 12,000 tpa.

Are there any plans to revise or expand this range?

Instead of widening the size range, we are focusing on optimized solutions for the existing range.

Now let's look at the alloy range: Cu-OF and Cu-OFE for rods, as well as Cu DHP for tubes, are your main alloys. How do you assess the demand for high conductivity OF rod compared to ETP rod, and what are its prospects?

The demand for high-conductivity Oxygen-Free (OF) copper rod is expected to grow steadily alongside Electrolytic Tough Pitch (ETP) rod, with OF

rod demand seeing a slightly stronger growth trajectory. This reflects the increasing recognition of OF copper's superior conductivity and purity, which make it indispensable in applications requiring exceptional performance.

What are the most dynamic sectors requiring OF copper?

The most dynamic sectors driving this growth include fine wire multiwire drawing, the automotive industry, magnet wire production, and continuous extrusion processes.

These industries are at the forefront of innovation and technological advancement, where the unique qualities of OF copper—such as its excellent conductivity, thermal properties, solderability and workability—play a critical role.

We're confident that both OF and ETP rods will see robust demand, but the specialized applications of OF copper, particularly in high-performance and cutting-edge technologies, position it for slightly greater growth in the coming years.

Beyond copper, you offer lines for zinc and precious metals, as well as for a wide range of copper alloys, from low-alloyed copper to brass, bronze, nickel-silver, cupronickel, silicon bronze,

and others. How central are copper alloys to your current strategy?

Copper alloys are an essential part of our business and one key pillar of our strategy.

While the total tonnage of alloy lines is smaller compared to OFHC copper, their importance lies in their versatility and the specialized applications they serve. Alloys such as CuMg, CuSn, brass, bronze, nickel-silver, cupronickel, and silicon bronze enable us to support a wide range of industries, from automotive and electronics to ordnance, marine and architecture, where unique material properties are required.

By offering such a diverse portfolio, we demonstrate our commitment to providing tailored solutions for our customers' evolving needs. These lines allow us to tap into niche markets and emerging opportunities, complementing the large-scale production of OFHC copper. Copper alloys, with their high-performance capabilities and growing demand in specialized sectors, remain a vital and exciting area for growth within our business.

Are you observing a growing demand for alloy rod vertical casting lines? If so, which alloys and sectors are driving this growth?

Yes, we are indeed observing a growing demand for



"UPCASt® Jewels" - Photo courtesy of UPCASt OY



Gindre Duchavany, France - First UPGAST® line utilizing 100% recycled copper as raw material - Photo courtesy of UPGAST OY

alloy rod UPGAST lines, driven by the increasing need for specialized materials across various industries. This demand is particularly notable in the automotive sector, including both traditional internal combustion engine vehicles and the rapidly expanding EV market.

Alloy rods such as CuMg, CuSn, and cupronickel are becoming indispensable due to their unique properties, such as high strength, corrosion resistance, thermal stability, and excellent electrical conductivity. In the automotive industry, these alloys are widely used in applications like wiring systems, connectors, and components requiring superior durability and performance.

UPGAST lines for brass rods, both binary and leaded brasses, are also part of your offering. Are they in demand, and for which applications?

While the current demand for UPGAST lines for brass rod, including binary and leaded brasses, is relatively low, we see significant potential for

growth in this area. Our technology is uniquely positioned to meet the needs of evolving industries as the applications for brass rods expand.

How does your technology compare to conventional brass rod production?

Unlike conventional billet casting, which typically involves extrusion in its downstream processing, upward cast brass rod goes through drawing and rolling.

Looking ahead, we are optimistic about the development of continuous brass extrusion technologies, which could create a substantial demand for UPGAST brass rod. This emerging process aligns perfectly with our high-quality rod technology offerings, providing a seamless supply chain for innovative applications in industries like automotive, construction, and consumer goods.

As these technologies advance and markets increasingly recognize the value of our unique approach in terms of quality, cost and sustainability,

we are confident that the demand for UPGAST lines for brass rods will grow, positioning us as a key partner in this evolution.

Do you see the increasing regulatory pressure to reduce lead content as an opportunity for your technology in this sector?

Lead-free brass consists mainly of copper and zinc, like standard brass, but replaces lead with elements such as silicon, bismuth, or phosphorus. Being that the case, the growing regulatory focus on reducing lead content may not introduce new opportunities for our technology in this sector, as the UPGAST process already supports casting for the relevant substitute alloys.

In 2014, you developed an UPGAST line that uses 100% recycled material. What kind of recycled material can your machines process, and does this material need any special pre-treatment?

While UPGAST lines can recycle a wide range of

materials, the key advancement has been the ability to process electrolytic copper, both ETP and OF, to produce OFHC copper on an UPGAST line.

While oxidized copper is acceptable as a raw material, the input must be free of contaminants such as oils and insulating materials like PE, PVC, or enamels, which need to be removed prior to feeding the material into the process.

Have there been any technical developments in this domain since 2014?

Since 2014, our UPGAST recycling process has continued to evolve, particularly in automation, allowing for more efficient handling of recycled materials and better process control.

These developments have allowed for a more sustainable recycling approach while maintaining high-quality output, meeting both technical and environmental requirements.



Gindre Duchavany, France - First UPGAST® line utilizing 100% recycled copper as raw material. Scrap charging - Photo courtesy of UPGAST OY

To what extent is the increasing focus on sustainability a demand driver for this type of line?

Sustainability has always been a key focus for us, and in this case, it's particularly compelling because it not only aligns with environmental goals but also significantly reduces raw material costs. This dual benefit results in a much faster return on investment, making it a powerful demand driver. By optimizing the use of recycled materials and reducing waste, these lines provide a cost-effective solution while supporting sustainability efforts.



Photo courtesy of UPGAST OY

Can your lines switch between pure cathodes and recycled materials depending on customers' needs, or are they designed specifically for one or the other?

We have both cases. Utilizing recycled material in significant amounts requires a separate melting furnace, so in single-furnace lines, cathode is always the primary raw material.

Although in many cases the additional melting furnace for recycling can be implemented later on, the best approach is to consider the use of recycled material already in the design phase of the line, allowing the entire layout, equipment, and operation to be optimized for maximum flexibility. In this case, also the proportion of raw materials can be easily adjusted as needed.

Let's discuss innovation, a crucial theme for development. What percentage of your sales is invested in R&D, and how is R&D structured internally?

The financial investment in R&D varies quite a bit from year to year and is not directly tied to revenue, but typically, it is at least a few percent without



R&D Manager Juho Kalliokoski inspecting SGTube™ at UPGAST OY Pilot plant in Pori, Finland - Photo courtesy of UPGAST OY

significant equipment investments. The product development team partly consists of the same people who also handle the commissioning of lines, making innovation a continuous process at our own development facility, in the engineering of the equipment, and customer projects.

To what extent do you co-develop new products with your customers?

We aim to co-develop all our new products with our customers. After first testing at our Pilot-plant for approved safety, functionality and reliability, we strive for testing in the real production scale environment at the selected customer site. Then we get the most realistic view of the product capabilities and immediate feedback from the customer.



UPCAST OY focuses on continuous research and development at its pilot plant in Pori, Finland

Photo courtesy of UPGAST OY

Your pilot plants where to test your developments are a key asset. What role do they play in your innovation process?

The UPGAST Pilot-plant is vital for our process and product development, a place where we can experiment freely without restraints from production pressure etc. The staff doing development work also does commissioning of the casting lines for our customers, so they have a broad view of the development needs of the customers, practical aspects and a profound understanding of our process. This, together with new ideas – also ideas outside the box – leads to innovations greater than just the sum of individual factors.

What are the main routes of innovation you are pursuing, and what needs are they addressing?

In addition to developing new products, our development focus is on adding value to our customers. The added value comes in many forms, like more efficient, economical, ergonomic, environmentally friendly products and products with an ensured supply chain for secured availability.

Could you share details of your most recent flagship innovations, distinguishing between rod and tube production lines?

Many of our innovations developed for one product (rod or tube), can also be applied in analogue for the other product. One recent flagship innovation is the cooler washing machine, which provides clean coolers from inside, without the requirement to open the coolers for cleaning. Clean water space of the cooler is imperative for good heat transfer in the casting process, leading to optimal product quality fit for downstream processes.

Are you incorporating AI into your operations, and if so, in what areas?

Currently, we use AI at an individual level primarily for data analysis and file and data management. The development and potential applications of AI are rapidly expanding, and we will undoubtedly utilize it in increasingly diverse ways in the future.

While our exploration of AI is still in its early stages, we are investigating its potential to optimize our systems, and it is likely that this will be seen in our customers' lines in the future as well.

How important is project management in a service like yours, and how is UPGAST approaching it?

In our company, each casting line is treated as a unique project, from design to commissioning, making project management essential for ensuring efficiency, quality, and customer satisfaction. At UPGAST, we take a structured and proactive approach, carefully planning, monitoring, and optimizing every stage of the project. Optimising and standardising the working methods and tools is crucial for successful project management.

Our dedicated project management team works closely with customers to align with their specific needs, maintaining clear communication, and supporting the timely completion of projects.

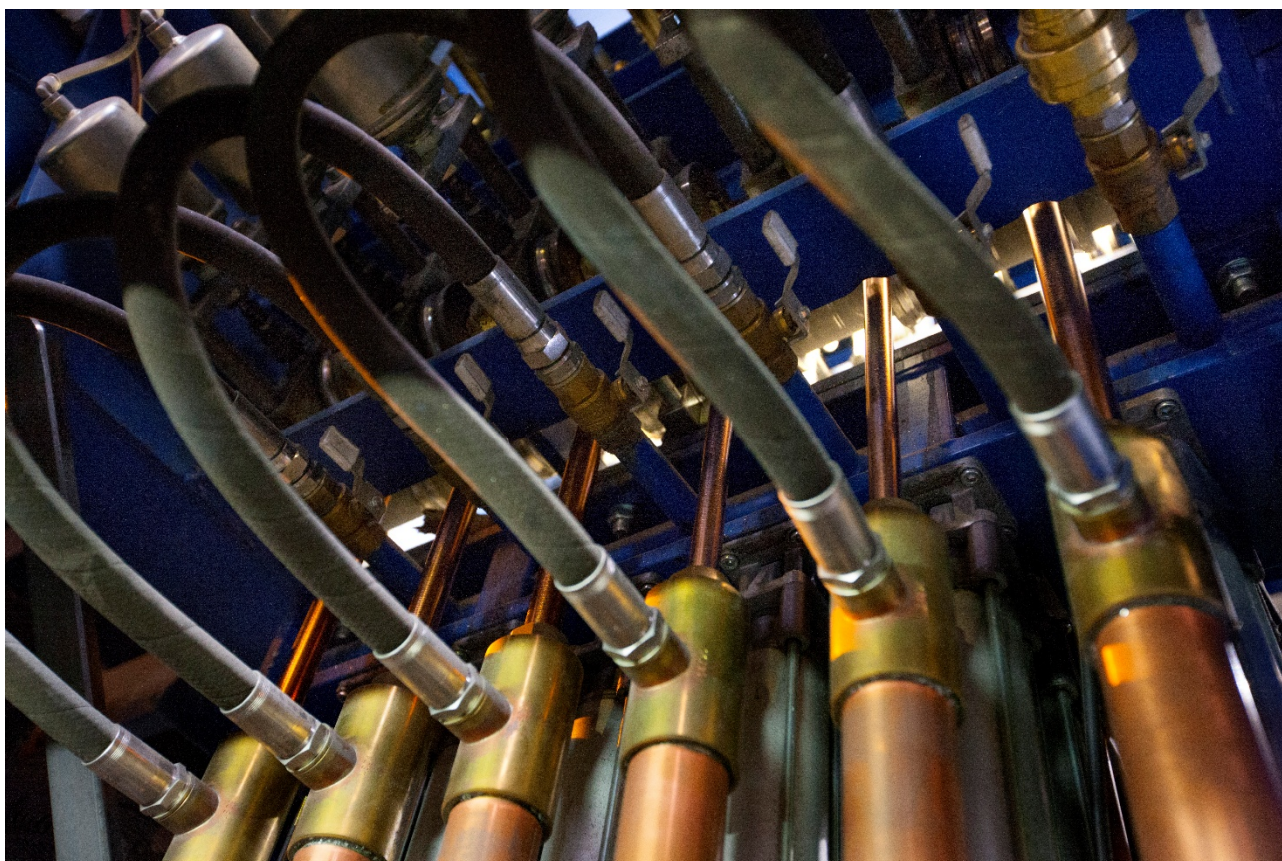
How have your pre- and post-commissioning support services evolved in recent years to meet developing customer needs?

In recent years, our pre- and post-commissioning support services have evolved significantly to better meet the changing needs of our customers. We have expanded our service team considerably, allowing us to provide more responsive and comprehensive support. Additionally, we have placed strategic emphasis on training the next generation of specialists to ensure long-term expertise and continuity. By investing in both workforce growth and knowledge transfer, we have strengthened our ability to deliver high-quality assistance, from initial setup to ongoing operational support, helping customers optimize their processes and maximize equipment performance.

The development of technology and connectivity has also enabled new ways of project management, customer service, and, for example, training or technical support.



UPGAST OY Pilot plant in Pori, Finland - Photo courtesy of UPGAST OY



UPCASt® offers standard rod casting diameters from 8 to 25mm - Photo courtesy of UPCASt OY

According to your latest financial statements, UPCASt, which employs over 30 people, had a record-breaking year in 2023, achieving a year-on-year revenue growth of 36%. The company more than doubled its turnover in two years, increasing from € 11.6 million in 2021 to € 25.1 million in 2023. Of this revenue, over 60% was generated from equipment sales, while 38% came from service sales. Did the consistent growth experienced in recent years continue in 2024?

2024 was a continuation of the growth of recent years, and our revenue continued to grow by 20% from the previous year. The growth was mainly driven by increased project sales, although there was also growth on the customer service side.

What are your objectives for the next five years?

Our goal is to maintain our strong financial foundation and profitability, thereby ensuring the

well-being of our work community. This will enable us to continue developing our operations and providing high-quality solutions and services to our customers.

How does 2025 look in terms of order books for project deliveries?

The order book for 2025 has been full of new projects for some time now.

The growth in demand in recent years has caused challenges in terms of manufacturing capacity and human resources, which initially manifested as significantly longer delivery times.

Instead of uncontrolled expansion, we have focused on developing our processes and network, thereby increasing capacity and productivity.

Delivery times have now been brought to a reasonable level, although the next new project deliveries are scheduled for 2026.

Looking ahead to the medium term, what is your outlook for demand over the next three to five years?

Looking ahead to the next three to five years, we anticipate a significant increase in demand for copper conductors and their alloys, driven by global trends such as electrification, renewable energy expansion, EV's growing adoption, and infrastructure development.

At the same time, there is growing pressure to adopt environmentally friendly processes with minimal environmental impact.

As a result, the industry will need to balance higher production volumes with stricter sustainability requirements.

We are well positioned to support this increasing demand, and even though we expect the company's growth spike to level off, the demand for UPGAST equipment and services will remain at a good level for the next few years.

From a strategic perspective, what are your goals for market positioning in the medium term?

From a strategic perspective, our goal is to maintain our leadership in upward casting technology, a position we have held since its invention in 1968. We will continue to set the standard for innovation, cost effectiveness and reliability in this field.

Our focus is on advancing our technology to meet evolving demands, ensuring that our systems remain the most efficient, reliable, sustainable and profitable solutions for our customers.

Finally, is there anything else you would like to share about UPGAST's journey or future plans?

UPCAST's journey has been a remarkable story of innovations and commitment to customer success, and I'm proud to be part of our team and UPGAST family. I want to take the opportunity to thank all our customers, and we look forward to continuing this journey together and achieving even greater milestones in the future.

UPCAST\Product range\Development



UPCAST OY offices in Copper Industrial Park located in Pori, Western Coast of Finland - Photo courtesy of UPGAST OY

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