



Twelve o'clock on a humid summer's day. You are sitting in traffic and you can even taste the exhaust fumes. At that moment you might spare a thought to global warming and the potential risks of greenhouse gases.

Awareness of the effects of global warming has spread fast in recent years. At the same time, our own actions in the escalation of the situation can no longer be denied by anybody. Solving the problem will require massive international efforts and shifts in attitudes from businesses and individuals alike. The big question we are faced with then is, if it is possible to have decent standards of living for everybody without destroying the preconditions for life on earth for future generations in the process?

The two alternatives

The first option available to us, is to go back in time to a preindustrial society. To a time, when only the most basic of needs could be satisfied but even the smallest luxuries were missing from our lives. The second alternative would be to utilize all the scientific and technical know-how available, to minimize emissions of greenhouse gases as well as maximize energy-efficiency in both industry and households.

Due to the aspiring nature of the human mind, the first alternative would seem to be out of the question. So it is no surprise then that today, a lot of resources are

devoted to increasing the use of renewable energy forms and the development of green technologies. Good examples of these trends are the growing utilization of wind and solar energy and that the development of hybrid and fully electric car designs is gaining strong momentum throughout the world.

UPCAST®– environmentally sound from the start

UPCAST® technology in itself, has always been an environmentally friendly process. Just electricity, compressed air and a cooling water circulation are needed to keep the process running. Naturally raw materials, typically copper cathodes and possibly some alloying elements must as well be available for actual production. Nevertheless, no harmful emissions are released to the surrounding environment.

The fact that UPGAST® technology is based on fundamentally green principles does not mean that it cannot be made any greener. For example, there exists different forms of electrical heating, of which we have chosen channel induction due to its unrivalled performance in energy-efficiency. Another

example is the development of direct-to-size 8 mm casting machine in the late 80's. The main effect of this feature is a significant reduction in energy consumption in the further processing of this near-to-net-shape cast rod.

GREENERCAST technology

Technical development is a never ending road. You can never reach the finishing line, you can just keep moving towards it. This is also the case with UPGAST® technology. We are continuously introducing new developments, that take into consideration environmental aspects. Among the latest in this category, which we have labeled GREENERCAST technology are:

- 1. Better refractory materials**, allowing for more efficient temperature profile of the refractory-to-frame layers resulting in reduction in heat losses.
- 2. Fast switching power transistors (FSPT)**, centre pieces in our stepless power supply and control system, lowering energy consumption.
- 3. Double loop inductors with special channel design**, to enhance the magnetically driven convection in the channel that results in better heating of the main melt body and lower temperature in the channel area reducing the cooling requirement for the inductor.

Always green. Now greener.



Mr. Dmitry Iorgachov, General Director of JSC Odessa Cable Works Odeskabel.



UPCAST® line in action at the Odeskabel plant in Odessa.



Coiling in progress.

CASE: Odeskabel – Ukraine industry leader found UPCAST® a wise investment

Founded in 1949, Odessa Cable Works Odeskabel is celebrating its 60th anniversary this year. Odeskabel is considered to be one of the most profitable and promising cable plants in Ukraine. The company is the CIS market leader in terms of quality and volume of telephone and fiber optic cable it provides.

Odeskabel is striving to provide its customers with the whole service range from the production of components for communication lines to accompanying works in network construction and operation. In order to achieve this goal the company has made some significant investments in recent years. Among these was the start-up of an UPCAST® line in 2002. To find out more about the part UPCAST OY has played in Odeskabel's success story we interviewed the Metallurgy Department Chief, Mr. Oleg Procopovich, who is responsible for all matters relating to wire rod, from technological support for UPCAST® operations to further rod processing and development.

Need to expand raw material base kick-started co-operation

In early 2000, Odeskabel management began investigating ways in which they could expand their own raw material base. Ukrainian market at the time was struggling with meeting needs for high-quality copper wire rod. The obvious solution lay in Odeskabel introducing new foundry facilities that would be able to answer to the market requirements. After looking into possible technology suppliers, UPCAST® came on top. – UPCAST® was chosen for its process flexibility, quality parameters of the rod and project implementation that UPCAST OY was able to offer, Mr. Procopovich clarifies the reasons

for choosing UPCAST®. – All the important features are included and operation costs are reasonable. The possibility for process upgrades in the future was also a decisive factor in the decision. Overall, all the figures presented at the start of the project have been met and even been outperformed in the ROI sector, Mr. Procopovich continues with his glowing remarks.

UPCAST® gets the credit

On top of a long list of advantages that UPCAST® can offer, is its unique characteristic that enables the user to vary the rate of production. The multistrand casting machine does this easily, without compromising on quality. – The quality of the rod is of utmost importance for our twisted pair cables up to cat. 7 and other sensitive products. We have found that our high quality standards are best met by UPCAST® oxygen-free copper, Mr. Procopovich elaborates on the benefits of UPCAST®.

Some of the praise goes to people behind the technology, as Mr. Procopovich carries on: – The improvements in our wire rod production are closely related to our close co-operation with UPCAST OY staff over the years. It is nice to see them moving the technology further, with introduction of new designs for coolers and casting dies. Another important in-

novation lies in the stepless power control and double loop channel inductors, which can significantly increase the line's efficiency and reliability.

Another satisfied customer

In terms of customer service Odeskabel has received from UPCAST OY, it is a case of yet another happy customer. They especially appreciate the friendly atmosphere and in depth understanding of customer needs demonstrated by UPCAST OY personnel.

What the future holds

Odeskabel counts expansion to the aluminium business as one of its future goals. As the first project with UPCAST OY was such a success, Odeskabel is very interested in similar projects, but this time the raw material being aluminium – UPCAST® technology seems to be the answer, also in aluminium alloy rod for the cable industry, Mr. Procopovich reckons.

As we are living in somewhat unstable economic climate at the moment, UPCAST® technology provides us with a clear advantage with its flexibility in production output. – This flexibility in production rate and shape allows us to feel better in quickly changing conditions at times of instability, Mr. Procopovich sighs happily. – Our company has been in the cable market for nearly 60 years. Odeskabel's employees, management and shareholders are facing the future with confidence. We are always ready for the future as we create it ourselves; the final words from Odeskabel's General Director, Mr. Dmitry Iorgachov.

CASE: ZAO Zvetlit – newcomers from the Mordovian Republic acquiring market share

ZAO Zvetlit is a relatively new company. It started its operation in 2004 and already it has secured its place as one of the largest industrial plants in the Mordovian Republic, which is part of the Russian Federation. The success can at least partly be credited to ZAO Zvetlit's choice of partners, whom are all market leaders in their own field.

Since the beginning of 2005 ZAO Zvetlit has been producing aluminium and aluminium alloy rod, which are widely used by the electrical industry for the production of cables and wires. In particular, the demand for aluminium alloy rod, which is used for the production of self-carrying insulated wires has seen a significant increase in recent years. In the same year the company began its own cable production as well, for which a new factory was built. At the new facility, equipment by some of the world's biggest manufacturers such as Rosendahl, Tecnocable, Caballe, Niehoff and Sikora were installed. For the moment then, ZAO Zvetlit produces many different types of cables, some of which used to be imported but can now be produced in-house.

In 2007 another production line kicked into action at the plant in the form of an UPCAST® line. Now ZAO Zvetlit masters the production of OF-copper rod as well. With this investment their own production is totally self reliant, providing copper rod at competitive prices and with total control over production capacity with no outside restraints.

Reliability and quality closed the deal

When choosing the technology provider for their new production line, increased levels of reliability and quality were the most important factors. UPCAST® technology's reputation as the world's leading upward continuous casting technology proved irresistible to the decision makers at ZAO Zvetlit. The following main advantages of UPCAST® technology were considered:

- Casting high conductivity OF-copper rod with optimal drawing quality and finish

- Ease of operation due to highly automated operation and control system
- Reliability of operation
- Low production costs

– The aim of the investment was to increase the level of reliability of the quality and supply of copper rod for our own cable production as well as for other plants and cable manufacturers. The solution that provided us with the best possible means of achieving our goal was UPCAST® technology and therefore it was the obvious choice, describes ZAO Zvetlit's Head of the Foreign Economic Activity (FEA) Department Mr. Sergey Kukayev.

Industry sees ZAO Zvetlit in a good light

UPCAST® technology was chosen in the first place for its many benefits, as described above. However, now that the line has been in use even further advantages have come to light, including:

- Consistent geometrical parameters and chemistry
- Smooth rod surface
- Rod has no foreign impurities and is not oxidized

These additional benefits do not represent just the opinion held by the management at the plant, but is also confirmed by the operators and laboratory staff, who ensure that the product meets quality standards.

– All these advantages of the UPCAST® technology reflect positive on us in the eyes of our customers and interest groups. We not only provide our own cable production with copper rod but also do it in

compliance with international standards, Mr. Sergey Kukayev approves and continues: – In addition, UPCAST® line's unique modular construction makes it possible to utilize various upgrades and additions which allows us to meet our customer needs better, Mr. Sergey Kukayev concludes.

Assets for the future

The secret of ZAO Zvetlit's success and growth to one of the largest cable producers in Russia can be at least partly credited to its choice of co-operating partners, whom are all leaders within their own field. At ZAO Zvetlit the belief is maintaining focus on quality as a major competitive factor will also allow the company to remain on top of their game in the international markets for many years to come.



“The solution that provided the best possible means of achieving our goal was UPCAST® technology.”

ZAO Zvetlit's Head of the FEA Department,
Mr. Sergey Kukayev.

Introducing UPCAST OY personnel – the engineering department

Markku Koivisto, Manager Engineering and R&D

Markku is responsible for mechanical engineering as well as process and equipment development at UPCAST OY. He joined Outokumpu in 1985 after replying to a recruitment ad. Markku started on the very same day all those years ago as Pertti – his right hand man of 10 years.

– The most satisfying aspect of my work is to witness the entire design process from the initial idea through all stages of development to a working final product, Markku describes.

Markku is at his best when faced with new challenges and a project currently under work will definitely keep his mind occupied for some time. Getting the new product on the market is the biggest challenge of the year.

When Markku is not wrestling with UPCAST® development work, he can be found exercising outdoors, looking after his plot of forest or fixing up his 110 year-old holiday home.

Pertti Pihlajamäki, Chief, Engineering Department

Pertti says his work involves everything to do with mechanical engineering from project layouts and foundations to piping and equipment design. Pertti joined Outokumpu at the same time as Markku, as the organisation seemed like a good choice for an employer.

According to Pertti, it is great to be part of different projects and to see how unique UPCAST® lines fit to old and new environments. – The biggest challenge is to create savings without compromising on quality. This can be achieved through good design, Pertti explains.

– Our goal is to deliver services that are in accordance with UPCAST OY's high quality standards and of which we, together with our customers, can be proud of, Pertti states.

Pertti spends his spare time on the badminton court with his friends, outside looking after his plot of forest or zigzagging across Finland with his wife and kids in the family camper van.



Markku Koivisto, Manager
Engineering and R&D

Pertti Pihlajamäki, Chief,
Engineering Department

UPCAST OY recently visible at three major industry exhibitions



At the end of 2008, UPCAST OY took part in two exhibitions in the important Far East markets: The 3rd all China - Wire and Cable Industry Trade Fair 2008 in Shanghai, China, 23 - 26 September and Wire and Cable India 2008 exhibition in Mumbai, India 20 - 22 November. Both countries are on top of the list of the fastest growing economies in the world and therefore an important market place to be seen in.

UPCAST OY was also present at Tekno Tube Arabia 2009 in Dubai, earlier this year. There the effects of receding economy could be felt in lack of visitors, which was not yet evident at the two previous exhibitions. UPCAST OY will continue to participate in industry events spreading its message of superior products and services. Now in 2009, many new developments are in progress and hopefully we will be able to present them to a wider audience in the near future.

Events and exhibitions



The International Wire and Cable Trade Fair in Russia
Moscow, Russia,
12 - 15 May 2009



International Wire and Cable Fair for Southeast Asia
Bangkok, Thailand,
13 - 15 October 2009

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We offer superior technology and service to old and new customers worldwide.

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