

Culture and emotion defeat strategy every time

Luvata is a world-leader in metal fabrication, component manufacturing and related engineering and design services. The global company prides itself on its ability to partner with its customers – through its Partnerships Beyond Metals philosophy – to help it increase their competitiveness. PES spoke to Justin Roux, Senior Vice-President of Communications, about the company and its products.

PES: How has your Sunwire product evolved since it was developed in the 1990s?

Justin Roux: In the beginning, Sunwire was electrolytically coated with tin. As the crystalline silicon wafers became thinner and more fragile, Luvata developed an annealing and hot-dip tinning process to meet with the increasing requirements of customers.

With the growth of solar panel markets, Luvata has developed a chemical-free annealing and plating process that achieves a greater level of material softness and straightness than ever before. This Sunwire technology offers photovoltaic module manufacturers the widest and/or thinnest wire compatible with multicrystalline silicon, monocrystalline silicon or thin film technologies.

Luvata has also tailored its production processes to enable it to adjust production and product dimensions to meet a wide range of applications and prevent the limitations that historically prohibited the development of new photovoltaic cells. The technology behind Sunwire allows for short lead times and simplified start-up capabilities, resulting in a higher level of responsiveness and geographic flexibility than previously possible. This technology enables us to work closely with our customers to meet their exact needs.

The most recent development has been to avoid cell breakages in soldering. Sunwire is now available with extremely

low-yield strength values, even below 70 MPa. We have also successfully introduced new plating alloys containing bismuth. These have a lower soldering temperature. With these new features our customers can increase their productivity in the soldering process.

PES: You made massive plans to triple production capacity by the end of 2009, is this still on track?

JR: Yes. Luvata has doubled production of its Sunwire in Pori, Finland and anticipates the start up of our Malaysia facility expansion in late 2009 with a 500 MW capacity. This triples our Sunwire production capacity. But this is likely to be just a start, we're seeing increasing demand and interest for photovoltaic power generation (and also for solar thermal). Obviously we want to see the world meet targets for renewable power generation and we expect to see this demand continue to skyrocket.

PES: In this issue we're discussing how PV seems to be finally making the breakthrough into a mainstream energy source. To what do you attribute this shift?

JR: The Stern Report into climate change, published last year, stated that unless the world spends 1% of GDP over the next 10 years, tackling the impact of climate change, then we'd have to accept that we'd lose between 5%-10% of GDP every year.

This, along with other reports into the effects of global warming and the need

to switch a far higher proportion of power generation to renewables, is focusing the minds of governments and energy producers.

We are also seeing a growing acceptance that fossil fuel reserves are peaking. The general consensus of opinion is that oil production will have peaked by 2010 and will then start to decline, becoming increasingly expensive.

As solar technologies become more advanced and more efficient, business and consumers are increasingly looking to utilise them as a power-generating medium. Larger-scale production and use of solar energy is bringing down the unit cost of photovoltaic solar energy modules, meaning that the price of generating energy from solar technologies continues to fall.

We're moving into a virtuous circle with solar energy and particularly PV where increased demand brings down prices, further boosting demand and further eroding the unit costs of the panels. Recent announcements by both India and China that they are to invest heavily in solar power production are a further boost for the industry and help drive interest and demand for solar power among other countries in both industrial and retail consumers.

We believe this shift in demand for PV is also caused by a growing recognition among energy companies and



governments that simply moving from one non-renewable resource such as oil to another non-renewable resource such as coal or natural gas, will only delay the inevitable. By switching to a renewable resource such as the sun, a giant fusion power plant, which offers more than 219,000bn kWh of energy every year, free of charge, is a compelling solution. Reliance on the 1kW of solar energy that falls on every square metre of rooftop is also a sustainable solution. These facts provide compelling arguments to support PV and solar thermal as viable, sustainable solutions in meeting our future energy needs.

PES: We note that Luvata has become involved with the SataPV project – can you tell us a little more about it?

JR: Satakunta University of Applied Science and Pori Regional Development Agency Ltd. (POSEK) have been leading a project to investigate ways in which the solar energy industry can meet its targets and challenges for the production of solar electricity. Luvata, as well as other regional companies having an interest in PV business, have been involved as experts.

The first phase of the Satakunta Photovoltaic project, called SataPV, investigates solar panel manufacture, development of photovoltaic knowledge and ultimately seeks to establish a photovoltaic facility to support training and testing. The project is part of the Centre of Excellence programme,

which aims to establish a PV panel manufacturing and solar-energy development facility in Satakunta. The facility will produce solar panels generating up to 30-40 MW of total yearly capacity. Finland has been in the forefront of new power initiatives and Satakunta has long been known for its energy-industry expertise.

Luvata has long supported the need for greater research and development and advocated the role of science and engineering to lead the search for new ways of addressing the issues of global warming and the need to develop renewable power generation. We hope that the Satakunta initiative will help boost the work already being done in Europe and underpin its role, along with the US and Japan, as a centre for photovoltaic excellence.

PES: Luvata is a company that is extremely marketing-savvy. How do your efforts and investment in this arena reap rewards?

JR: Luvata's approach is to go beyond just supplying metal products and become more of a business partner to its customers, using its capabilities and experience to create more value in their businesses. This strategy has opened a new era of opportunity by creating stronger partnerships throughout the value chains in which it operates. It calls this strategy Partnerships Beyond Metals.

This is, in a nutshell, a movement from a commodity-based, supply business

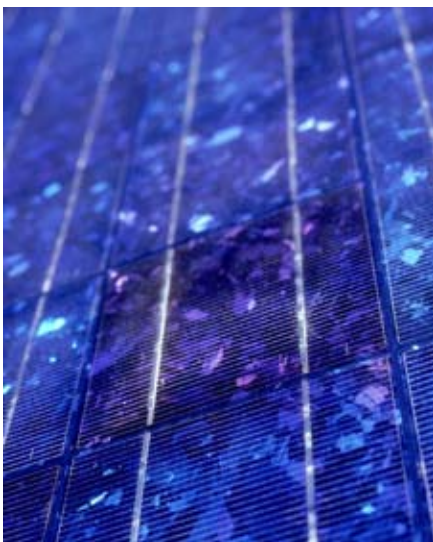
into a solution business. Luvata's four-and-a-half centuries of metals experience are a valuable asset and so our strategy is to offer that asset to our partners, to help them solve their problems and make their businesses more efficient. Our pledge is to 'improve their products, improve their processes and therefore to reduce the capital required to run their businesses'.

This has proved to be a very popular approach and Luvata has had to change to accommodate it. We have diversified into more metals than our traditional copper, we have become more integrated in our customers' businesses, and we have made a series of acquisitions to become more of a single-source solution-provider.

PES: What's been your big story so far this year?

JR: As a company involved in industries such as renewable energy, power generation, architecture, automotive, transport, medicine, air-conditioning, industrial refrigeration, consumer products and construction, it is difficult to narrow all of our developments down into just one big story.

However, clearly the past 12 months have seen a period of massive economic turbulence but against this backdrop one of the most positive things to emerge has been a strong, global commitment to 'doing more with less' for the right reasons. One example of



this has been low-carbon economic development, espoused by Barack Obama, Gordon Brown and numerous other world leaders as a key engine to drive forward economic growth and development.

Luvata's aim is to make tomorrow better than today and we have worked closely with a number of customers to develop new and improved products and technologies.

Luvata has continued to lead its industry in the development of superconducting cables, which are now at the heart of the Large Hadron Collider at CERN and used in two thirds of the world's MRI scanners. Luvata superconductor wire is also being utilised by Fusion for Energy (F4E) – the European Union's organisation for Europe's contribution to ITER and the development of fusion power. Luvata's oxygen-free high-conductivity chromium-plated copper strand is being used to construct the world's largest-

ever fusion experiment in the south of France, and potentially open up a new form of renewable energy for all of us.

Likewise, the advances in Sunwire are another big story for Luvata and we continue to work with energy companies globally to help further develop photovoltaic energy production.

Beyond renewables, we're working with a number of governments and universities to pilot the testing of copper air conditioning systems and surfaces for public transport and public areas in response to the recent H1N1 swine flu outbreak and ongoing concerns about the spread of MRSA, legionella, eColi and other potentially-deadly viruses. Copper's natural antimicrobial properties mean that all these viruses have been shown to be inactivated on copper surfaces and we're working to demonstrate how copper could be used to contain the spread of viruses in a range of public environments.

We've also been developing a new anticorrosion copper material for use in heat exchangers. Our Luvata Rolled Products division in Sweden has developed a unique coating material for copper strip, which prevents corrosion even when used in harsh environments, such as heat exchangers, where condensed exhaust gases attack metals.

PES: How have Luvata's company values and behavioural principles helped the development of your company?

JR: Luvata has three core company values that we have cultivated over our long history and which provide a vision for what the company seeks to achieve for customers and what we look for from our people.

The values are captured as follows:

- Our passion for results makes Luvata focused, hard-working and productive – always aiming for more
- Our customers know that we deliver on our promises – when we say we're going to do something, we do it
- Our open-mindedness keeps Luvata discovering new ways of doing things – always innovating and never believing that something is impossible.

The principles have become a fundamental part of almost every aspect of life within Luvata and have become the foundation of our operations:

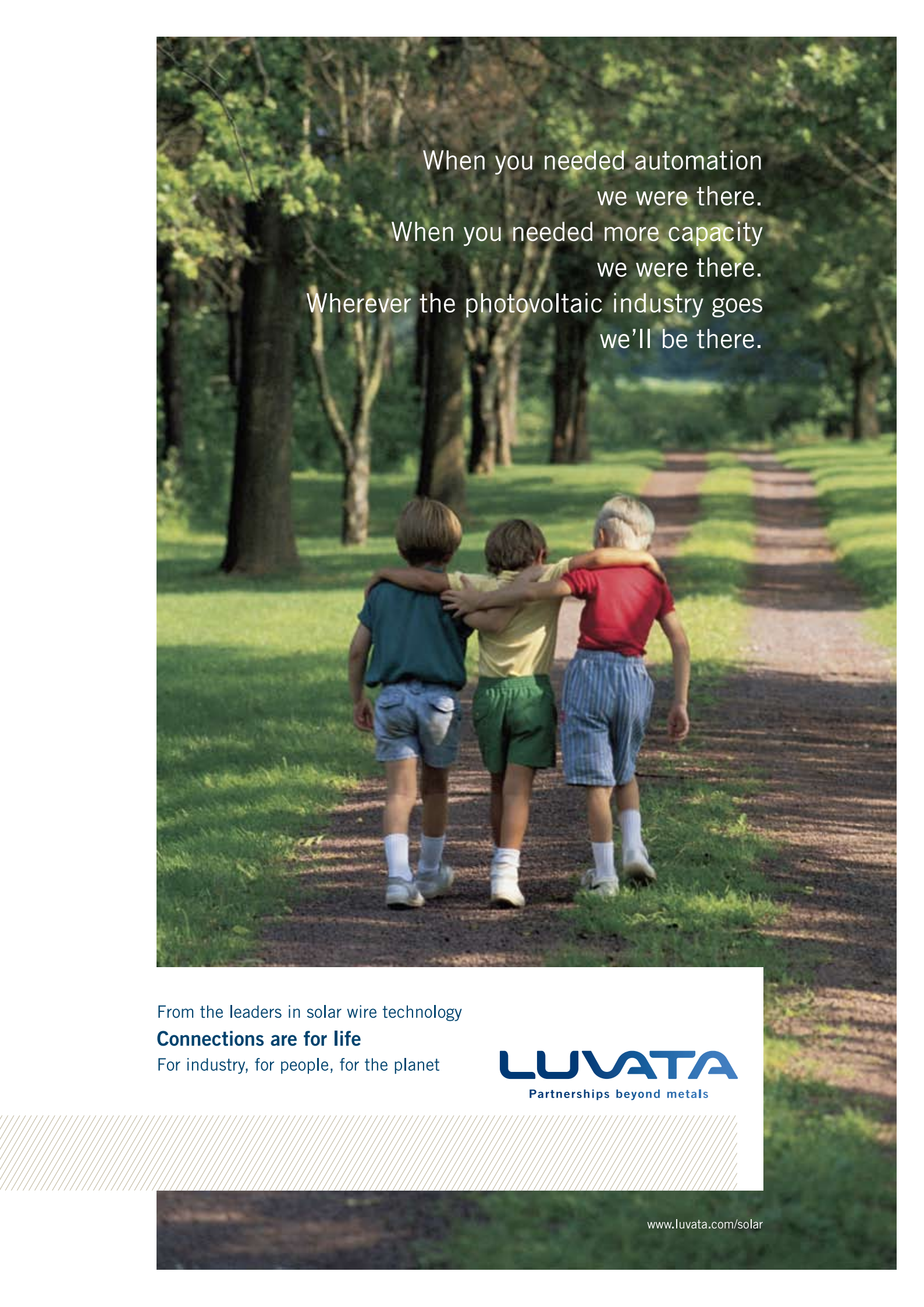
- Communicate clearly and openly
- Be long-term relationship-driven
- Support change and innovation
- Be backers, believers and developers of people around you
- Set clear goals, track progress and deliver results
- Be result-oriented and bottom-line focused
- Adopt a can-do attitude.

We have integrated these principles into Luvata's appraisal system, with all staff judged on how well they deliver against these qualities. In addition, Luvata has developed and launched a number of internal initiatives to promote best practice among staff, including Luvata TV (to facilitate communications across our global operations) and an annual colleague-recognition campaign, 'Luvata Champions', which rewards staff at all levels who have made outstanding contributions to the company.

By setting principles, constantly reiterating them and using them as a benchmark for performance and by rewarding those staff who really live up to the company values, we have helped underline the passion for innovation and finding new ways of working which is the basis for our ongoing success.

Luvata began with a mantra of: 'Culture and emotion defeat strategy every time' and has stuck to it. The group now aims to facilitate Partnerships beyond Metals as the umbrella for everything we do. It has underpinned the development of agreed qualities and principles for the company. ▀

For more information, visit www.luvata.com

A photograph of three young boys walking away from the camera on a dirt path through a lush, green forest. The boy on the left is wearing a green shirt and light blue shorts. The boy in the middle is wearing a yellow shirt and green shorts. The boy on the right is wearing a red shirt and blue and white striped shorts. They are all wearing white socks and sneakers. The path is lined with tall trees, and the sunlight filters through the leaves, creating dappled shadows on the ground.

When you needed automation
we were there.
When you needed more capacity
we were there.
Wherever the photovoltaic industry goes
we'll be there.

From the leaders in solar wire technology

Connections are for life

For industry, for people, for the planet

LUVATA
Partnerships beyond metals

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