The NFTN: supporting localisation and growth

MCA talks to Sandy Majatladi, programme manager for the National Foundry Technology Network (NFTN), about his vision for the South African metal casting industry and the successful interventions that are transforming the industry into a globally competitive one.

The National Foundry Technology Network (NFTN) is a Department of Trade, Industry and Competition (dtic) initiative that is hosted by the CSIR. "Our vision is to increase the global competitiveness of the South African foundry industry, especially with respect to distressed foundries: through technical interventions and the development of skills and capacity," begins NFTN programme manager, Sandy Majatladi.

Key focus areas include capacity building; technical and regulatory assistance; skills development and stakeholder relations and awareness. "Ultimately we hope to reduce the need for imports and increase local production and investment in the sector," he says. "Local foundries are competent to manufacture to internationally accredited standards. There should therefore be no need to import castings due to concerns about locally available foundry capacity or quality," he adds.

"The NFTN offers tool and product development to capacitate foundries; process optimisation to enhance competitiveness and efficiency; and technology transfer to bring state-of-the-art technologies into use at our foundries – and all of these contribute towards competitiveness," he notes.

From a regulatory perspective, SA's NFTN offers support for the implementation of quality management systems to enable local foundries to compete internationally and to align their processes and end quality with international benchmarks. "As an example, we recently supported the accreditation of three local foundries with PED/EU certification: KEW (Kimberley Engineering Works), RelyIntracast and Vestcast. By supporting this strategic intervention, we have not only enabled these local foundries to penetrate the global markets, we have proved that, in terms of quality, our local foundry sector can compete with the best in the world," Majatladi informs *MechChem Africa.*

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Prior to this intervention, only one South African foundry was accredited to the PED/EU certification for the manufacture of CE-stamped castings – and this foundry was liquidated in 2016. We now have three companies in South Africa that can offer this level of certification instead of the one we had for so many years – and by 2024 we hope to have one or two more to further support this growing need," he adds.

The role of the NFTN in the PED EU certification process begins with an initial assessment of a foundry to determine whether it meets the criteria for producing castings to the required quality. "We then arrange for a consultant to work on a pre-determined timeline to get the foundry ready for an audit. Once the whole PED system is incorporated into the company, an authorised PED audit specialist such as TÜV is appointed to assess each company and recommend it for certification," Majatladi explains.

Many CE-stamped metal castings and components are imported into South Africa from countries such as China, India and Brazil. PED-certified South African companies are able to supply all local companies that require CE-stamped castings for use in their pumping systems, valves and other equipment, while also having access to the global export market.

During COVID-19, the NFTN continued to support the foundry industry. "In fact, because the borders were closed to imports, there has been an increase in the number of foundries supplying the local market. This has shown that our industry has the capacity and the capability to supply to the local market, most notably to the power and petrochemical industries," Majatladi says.

With respect to higher level training, the NFTN has partnered with the Gauteng Foundry Training Centre to develop an artisan training course that incorporates skills such as pattern making, mould making and melting . To date, this is the only QCTO-accredited and recognised training course in South Africa that can develop artisans for the foundry industry," he adds.

RelyIntracast, which specialises in the manufacturing of investment castings in all air melted alloys, is now one of three South African foundries accredited with PED/EU certification for the manufacture of CE-stamped castings.

Identifying the challenges facing foundries

In its stakeholder relations role, the NFTN is currently on a drive to compile an updated national inventory of South African foundries, across all relevant metals sub-sectors. "No-one in the industry seems to have an accurate and up-to-date list of foundries and what they focus on," explains Majatladi.

In first phase of this study, a survey of all South African foundries has been completed to evaluate the industry *status quo* and the level of environmental compliance. The study, conducted by researchers from the Environmental Services unit of the CSIR, aims to provide an informed and up-to-date overview of the foundry industry in South Africa that will enable the NFTN and the dtic to better support the recovery of the industry and assist foundries to become sustainable.

"The NFTN hopes that the information gathered can assist the relevant authorities in devising policies, strategies and incentives that are relevant for the sector," says Majatladi. This Status Quo Report provides substantive baseline information on the operational status, technology analysis and operational nature of foundries. "This baseline can be subjected to strategic analysis and used to guide policy formulation. It will obviously assist us to support industry associations and members when lobbying and appealing environmental issues, but we believe the data can be used to better understand the sector on a broader level, and inform policies that reach way beyond environmental compliance."

Common challenges that emerged from the survey include: issues of competitiveness and cheap imports; a shortage of skills and labour; environmental compliance and the impacts of atmospheric emissions; and a recurring set of challenges around energy supply and costs.

"We expected energy to be an issue and this confirmation has given impetus to a second phase of the study, which will include a significant focus on the energy baseline of the sector. This phase will analyse the energy supply and demand challenges and help to provide realistic solutions," Majatladi assures.

"The information from this survey will be of benefit to the sector. We now know that in June 2020, there were 124 operational foundries in South Africa. We want to see that number stabilise and eventually grow, to the benefit of all South African manufacturers," he says, adding that the results should be fully analysed and ready to be presented to the industry by April this year.

"Ultimately, we want to link up foundries and OEMs so that each foundry can service specific sectors according the particular process and quality standards required. For the automotive sector, for example, the minimum requirement is the IATF (International Automotive Task Force) standard.

"In the past, the foundry industry was not sector focused and tended to try to separately satisfy the requirements of every customer. This becomes an enormous challenge in the modern world. By focusing on individual sectors such as mining, automotive, or pressure equipment, it becomes possible to implement the changes needed to meet their target sector's global minimum standards.

"This is our goal for 2021 and beyond: to identify the dominant sector for each foundry in South Africa and then to raise their process and quality management systems to enable them to best meet the minimum standards required of that sector," Majatladi concludes. ❑

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