

United Kingdom

NIJEN Stainless Fabrications

NIJEN eliminates outsourcing by installing UK's first AMADA ENSIS with Rotary Index

Carrickfergus-based NIJEN Stainless Fabrications has made its first venture into laser cutting by investing in a new AMADA ENSIS-3015AJ fibre 3 kW with Rotary Index, the first machine of its type in the UK and Ireland marketplace. Up until this point all AMADA Rotary Index laser cutting machines had been limited to CO₂ cutting, the advancement to fibre took the processing possibilities to the next level. The investment is described as a "huge leap" for the company that "provides the potential for significant growth".

Celebrating its 20th anniversary in 2019, family-owned NIJEN has grown to become one of leading stainless steel manufacturers and fabricators in Northern Ireland and rest of UK. The company operates from a 6000 ft² factory which is home to a dedicated team of highly trained staff and technicians.

NIJEN supplies its fabrication and machining services and stainless steel products to a range of sectors across the UK and Ireland, predominantly transport and food, but also pharmaceutical, cold storage, medical, energy, architecture and art, to list but a few. In addition, the company can offer a range of its own products, including bollards, cycle racks, street furniture, signage and hand rails, for example.

Such a repertoire allows NIJEN to enjoy year-on-year growth. In order to ensure it continues competing at the front end of the market, the company regularly reviews its manufacturing capabilities, with cutting processes among the latest to come under the spotlight.

"We've never been afraid to invest," states Nigel Cathcart, Director at NIJEN. "For us, the latest technology and ensuring we keep pace with the market has always been a very important aspect of the business. With regard to our cutting processes, we were previously outsourcing our laser profiling requirements, and working in-house with punching, guillotine and corner notching machines. As such, there was a clear opportunity to save on subcontracting, and improve productivity and process control, by investing in stainless steel laser cutting technology."

A trip to an AMADA UK exhibition in Kidderminster duly revealed the potential available to NIJEN.

"Seeing the ENSIS fibre laser with Rotary Index unit highlighted the flexibility we could achieve," says Mr Cathcart. "It was clear to see that the ENSIS-RI was all-encompassing in what it could do."



Utilising all the benefits of the ENSIS-AJ 3 kW fibre laser for flat-sheet profiling, the Rotary Index unit adds the capability to process tube, channel and angle profiles. With a fast changeover between flat sheet and tubes, and many new functions to decrease set-up and increase efficiency, the ENSIS-RI provides the perfect platform to expand business opportunities.

The ENSIS-RI has been extremely busy ever since it was installed in June 2019, with a second shift coming on stream and NIJEN already thinking about a potential third shift.

"We're receiving more and more enquiries about what we can achieve on the machine, from both existing and new customers," states Mr Cathcart. "In the next few weeks we will also bring in a design engineer, who will help leverage the benefits of the machine to create new products and new revenue streams."



"We did look at machines from other suppliers because we wanted to make sure that our decision was the right one," says Mr Cathcart. "From a technology point of view, the ENSIS-RI answered all of our questions. We're not afraid of new technology, and AMADA is very strong in this regard."



In terms of sheet profiling, around 90% of capacity at NIJEN is used to process stainless steel up to 15mm thick, and 10% for cutting aluminium up to 12mm. With regard to tube processing, the company cuts material up to 154mm diameter, in 6mm wall thickness. NIJEN makes full use of both shuttle tables, as well as the RI unit. Typical batch sizes are 80-150, although sometimes up to 500.

"A lot of our tube work requires piercing, special joint creation and cutting to length, much of which would have been completed on a conventional milling machine previously," explains Mr Cathcart. "The ENSIS has blown that process out of the water with the speed it can cut. In particular, the Rotary Index is proving a big plus in terms of cost and time savings. Also, the accuracy that we can achieve is very similar to that of a CNC milling machine, as is the quality of cut."

The introduction of the ENSIS-RI has saved the previous cost of outsourcing the company's laser cutting – and waterjet – requirements. Also in terms of time savings, NIJEN can now turn jobs around a lot faster, particularly as there is no transportation involved. Work that previously took a few days at a subcontractor, can now be completed internally within a few hours. Production control is also enhanced as a result of bringing the process in-house.

To complement the ENSIS-RI, NIJEN has taken delivery of a pre-owned, fully refurbished AMADA HFE-1003M2 7-axis long-stroke press brake.

"The thinking here was centred on achieving even higher levels of repeatability and precision," says Mr Cathcart. "We had two press brakes but they were in need of an upgrade, hence the investment."

Mr Cathcart admits there was a little bit of apprehension among shop-floor personnel with regard to the arrival of the AMADA machines, but this was short lived once the improvement in performance could be seen first-hand.

In fact, integration of the machines was aided by investment in various AMADA software solutions, including V-factory, which provides real-time data from any AMADA machine anytime, anywhere, using any device with an internet connection. Parameters monitored by V-factory extend from current machine status and volume of work, through to material usage, energy consumption and operation analysis. As Mr Cathcart points out, V-factory "tells us everything...and more". Moving forward, NIJEN anticipates that V-factory will handshake with a soon-to-be-installed MRP system, helping to shape a digital future for the company.

NIJEN has also installed AMADA's VPSS 3i Blank & Tube automatic programming and nesting software, as well as AMADA SheetWorks 3D CAD.

"All of this investment has been prompted by a significant rise in the number of enquiries being received, in particular regarding component variety," concludes Mr Cathcart. "The AMADA machines and software have effectively taken care of the additional skills we would've needed to meet these customer requirements. One of our major market differentiators is that we always make an effort to discover exactly what the customer wants. Having the AMADA technology in place means we can offer so many more solutions than previously. Even though we are a relatively small company, this investment shows that we are agile, nimble and have a huge amount of courage."

Notable in these respects is that NIJEN is also growing its organic digital marketing profile across multiple platforms. Its relevance and authority in the Northern Ireland Stainless Steel fabrication market is similarly increasing.

