We Can Do Anything!



Established in 1981, ElectroRef Engineers has introduced many novel engineering concepts to Sri Lanka, thereby proving that engineers in the country are capable of manufacturing machinery on par with international standards. Wimal Jayawardhana, Chairman/Managing Director/Inventor and Upul Ekanayake, Director of ElectroRef Engineers spoke about the services offered by the company as well as the need to recognise the capabilities within Sri Lanka where development of local industries are deemed important and manufacturing encouraged rather than resorting to the importation of machinery.

By Udeshi Amarasinghe
Photography Indika De Silva

ElectroRef Engineers offers services from initial consultation, designing, fabrication, to installation of machinery. Associated companies include ElectroRef Sales Centres, Wayamba Saw Mill and Wayamba Rice Mill. “We established the Wayamba Saw Mill and Wayamba Rice Mill to introduce new technologies to Sri Lanka,” explained Wimal Jayawardhana, which is a primary focus of the company. Refrigeration, air conditioning and ship/marine repairs are also part of ElectroRef Engineers’ extensive portfolio.

Furthermore, non destructive testing and examinations, for testing the quality and strength of welding is also conducted, at the hydro power stations in Kukuleganga and Upper Kotamale as well as at all flyovers and overhead bridges in the country. ”We are currently conducting testing of the aviation fuel lines and tanks at the Mattala Rajapaksa International Airport and harbour,” said Upul Ekanayake who is a specialist in this field. Non destructive testing is done using four methods, which are ultra sonic, dye penetrant, x-rays and magnetic particle testing. “We have skilled, trained and qualified staff to do this,” affirmed Upul Ekanayake while further adding, “we have done many projects in the Maldives, Rwanda, and Uganda conducting testing work of hydro power projects.”

Having identified gaps in the saw milling industry, ElectroRef introduced new technologies such as the thin kerf (cutting gap) and narrow band machinery. “This can be used for both log sawing and re-sawing. As the thickness and the width of the blade is very low, friction too is low. Therefore, the electricity consumed by these machines are 66 percent less compared to the circular saws and saves about 30 percent of the timber in the nation,” elaborated Wimal Jayawardhana. With required training in the USA, this new technology in timber milling was introduced to Sri Lanka in 2008. The system is environmentally friendly with minimum noise and requires less labour. “However, the operator of the machine is a trained technician,” said Upul Ekanayake. Wimal Jayawardhana further added that, “400 units have already been installed in Sri Lanka, making ElectroRef Engineers the market leader in Asia and Sri Lanka.”

As A Result Of The Innovative Spirit Of The Organisation, They Have Received 13 Patents For Their Inventions And Three Presidential Awards

As a ISO 9001:2008 company, ElectroRef has recognised the importance of engineering companies becoming involved in the industrial sector. As a result, “we selected a couple of fields, one being the saw milling industry, the other the rice milling industry, where we have identified areas for improvement and provided the solutions. We have received three Presidential Awards for our contribution to the rice milling industry,” explained Wimal Jayawardhana.

As a result of the innovative spirit of the organisation, they have received 13 patents for their inventions. These are – valveless flushing system for toilet commodes, where the machinery too was manufactured in Sri Lanka; waste heat recovery system for air conditioning and refrigeration equipment; plant for paddy washing and cleaning; in-fills for cooling towers; paddy drier; engine operated by liquids with low boiling points; high and low density impurity removing systems; refrigeration system to preserve fish in multi day fishing boats; animated animals; boiler and hot water generator; efficient par-boiled paddy processing system and hydro power generator. “Usually rice millers take 24 to 48 hours to soak paddy, which causes many problems such as waste water and environmental issues. We identified the issues and introduced a controlled system, the par boiling system. Another issue was that the dryers used in Sri Lanka required a boiler. This was difficult to maintain because it was a high pressure apparatus. We introduced a dryer that is fuelled by paddy husk. This was very successful and we are manufacturing these in Sri Lanka. We have already installed these in Kandaketiya, Ampara, Tissamaharamaya and Kurunegala,” said Wimal Jawardhana. To ensure that their products are of working quality, a sample is first tested prior to introducing the product to the market.

Speaking about animated animals, Wimal Jayawardhana said that he designed walking dinosaurs as a response to a challenge. “The dinosaurs I designed moved not using wheels, but with the movement of the limbs. I took the human body as the example to design these animals,” he explained. All manufacturing is done at the Borella premises and at the workshop in Mirihana.

With diverse clientele including marine, diplomatic missions, telecommunication, agriculture and other industries, Wimal Jayawardhana and Upul Ekanayake stress the need for Sri Lanka to recognise skilled technicians such as welders and plumbers, if not, before long such skilled workers will be hard to find. “When you look at Sri Lankan policies it is not suitable for manufacturing. It is good for imports. Our culture is also different, people do not like to work in the Engineering field. We are feeling the lack of skilled workers. Furthermore, there is a tendency to always seek foreign expertise, but we have skilled people in this country,” they said.

Saying that it is not feasible to manufacture and fabricate machinery within Sri Lanka, ElectroRef Engineers too import machinery though they have the capability, knowledge and confidence to design and manufacture themselves. “The system has to be changed if not there is no future in the Engineering sector. We are very capable. In the ship industry, as well as marine air conditioning – we are the leaders in the country. We have a training school in Kurunegala where we train technicians on saw milling. There are times we bring in consultants from China and India to train our people. But, overall if there is no recognition and policy change in relation to the engineering sector and manufacturing, it will be very difficult for us to find people to work,” explained Wimal Jayawardhana and Upul Ekanayake.

The vision and mission of ElectroRef Engineers is represented by the tree of life. What Wimal Jayawardhana and Upul Ekanayake stress on is that all aspects of life are connected to engineering; it could be from medical equipment, to roads and provision of water and electricity, the importance of this field needs to be recognised in Sri Lanka and an attitude of ‘we can do anything’ should be acknowledged.

