



Interhides Public Company Limited Bangpoomai, Thailand

Interhides Public Company Limited (IHL), one of the 130 tanneries now occupying two clusters in Bangpoomai, around 35 kilometres south of Bangkok, has been around for a long time. Managing director, Ongart Thumrongsakunvong, explains that the operation began, in the centre of the national capital, in 1948. A visionary government convinced leather producers to move out of the city and into dedicated tanning clusters in 1958. "My grandfather set the company up and my father was responsible for moving the business here to the cluster we call 'Kilometre 34'," he recalls. "I took over about 30 years ago but I was involved before that. Before I went to school, I used to come to the tannery and take some hides at crust stage and lay them out to dry on a piece of ground. School was nearby and I was able to take care of, maybe, 300 hides a week in this way. We were a small company, making sides for footwear as well as some leather for belts and handbags."

Industrialisation properly hit the Thai leather industry about 25 years ago, on Mr Ongart's watch. He describes the transition that allowed IHL to start processing whole hides and exporting to China as "very exciting". He was paying his workers a salary of around

Two generations at Interhides Limited are now working hand in hand to establish strong partnerships with customers and suppliers and to make this family-run tannery, situated in one of Thailand's main leather manufacturing clusters, a leader at home and internationally.

\$150 per month then, plus meals, and this, he says now, helped Thailand become competitive but it wasn't long before tanneries in Taiwan and South Korea began to entice Thai workers to their operations. "They were able to earn double the salary by moving," the IHL managing director says. "That was a problem for us, of course, but at least it gave us confirmation that Thai people were good workers and had good knowledge."



Family business. Ongart Thumrongsakunvong and Chutima Busayapoka (above) are running Interhides with their children, Wasin and Wanvisa (left).

Back home, noting the loss of many footwear manufacturing jobs in Thailand at the start of this century, IHL took advantage of technological developments to start supplying automotive original equipment manufacturers (OEMs) with leather for seating and other parts of car interiors. A number of Japanese OEMs already have operations in Thailand and their European rivals are following. "I thought it was something we needed to do if we wanted to be a more stable business," the IHL managing director explains. He runs the company with his wife, deputy managing director, Chutima Busayapoka, and children; stability and longevity appeal to him. "In automotive, the relationships are based on specifications. They think in terms of the whole programme for a model, which is usually four years, so you can plan. Yes, they want cost reductions year on year, they want kaizen [continuous improvement] and 5S [housekeeping standard], but the good thing is there is never bad credit: they pay us, we pay our suppliers and everyone is happy. It's hard to sleep at night if you are worried you will not be paid. It's up to us to make our agreements with the OEMs work; it's up to us to make things work in the hide market and manage our own costs." All of its automotive customers are Japanese.

Full service

It's important to IHL to be able to run its own beamhouse and to be able to run the entire leather manufacturing process, up to and including cutting and sewing of parts for automotive interiors, itself. It plans to keep adapting its production, to keep finding new ways of adding value. It intends to start producing non-chrome as well as chrome-tanned leather. Mr Ongart calculates that, worldwide, more than 80% of leather manufacturers have no beamhouse now. It's a direction he prefers not to go in; "the beamhouse is key", he says.

His company is currently producing between 1.5 million and 2 million square-feet of automotive leather per month and cutting and sewing it into parts and kits for OEM customers. Mr Wasin remarks that current output levels mean more sets but less leather as the car brands IHL deals with are using less leather in their interiors than they used to. Another change pleases him more.

"Before," he explains, "a customer who wanted to buy 3 million square-feet of automotive leather per month from Thailand would divide that volume up among a number of suppliers, but not now. Now the order will go to one tanner because the OEMs want no more inconsistencies, no more chasing around managing a diverse group of suppliers. It's a case of all eggs in one basket, but if you choose the basket well and look after it, it can work."

A finishing and cutting plant is in the tallest of the network of buildings IHL runs. Of particular interest here is a customised spray-coating operation, which has reduced chemical waste by 30% since coming into full operation in 2016. The customised element centres on combining a colour coat and top coat together on a third roll, which means only one round of spraying is required afterwards. IHL says its in-house maintenance team has accrued a high-level of understanding of how the technology works. It says it also received great support from leather chemicals supplier Stahl in achieving the combination and in reducing waste. It says, too, that it can finish a batch of hides in less time using the technique and technology it has in place now, saving at least a day on the length of time needed for this part of the operation. Mr Ongart believes he can make further savings in chemicals and points out that the less waste the operation generates, the better things will be for workers and the environment in terms of air quality (Stahl has said it agrees with this, even though that means selling less product). "I know there is very good topcoating technology on the market, and it's a great concept," he says, "but it's very expensive, and the maintenance is expensive too. Using a normal machine with our new formula is fine for us."

The sewing room here has more than 100 sewing machine operators producing car interior kits for Toyota and for Nissan. The stock is at the rear of the room and moves forward towards the sewing machines on conveyors. This "logical flow" is one IHL has



learned from its automotive customer. Its Japanese automotive customers also include steering-wheel manufacturer Nihon Plast, a tier-one supplier to Nissan, Honda and others. IHL puts together finished, covered steering-wheels for this customer at a rate of between 6,000 and 7,000 per month, a figure it intends to double before the end of 2017.

At present, the company is converting one of its own storage facilities into a workshop for producing furniture that it wants to bring to market, using trims from its automotive leather production as well as recycled wood from pallets and packing crates. It believes it can make high-quality products and even has plans for an own-brand leather furniture store in Bangkok. It has an interest in producing shoes too: a safety footwear operation is already commercial, producing 1,000 pairs per month. Each year IHL, whose workers have as much need of protective footwear as any other factory workforce, is consuming around 2,000 pairs of these safety shoes, with the other 10,000 going to other manufacturers in Thailand (it has no export customers for this product yet).

New land, new building

At current production levels, IHL processes 2,000 bovine hides and 20,000 pigskins per day. The company plans to double bovine production and process 4,000 hides per day, explains general manager, Wasin (Chris) Thumrongsakunvong (the managing director's son). Construction to accommodate the extra drums is well under way on a 10,000 square-metre plot adjacent to its raw-to-blue plant, one of six separate units the company runs in the Bangpoomai cluster (others include units for tanning and retanning, one for processing to crust, one for stitching steering-wheels and two wastewater treatment plants). The new plot became available in 2016 and ambitious IHL snapped it up. It will carry out sammying, splitting, shaving, milling, skiving and wet bluing in the new building, which it hopes to have complete by September 2017. This expansion will take the company's total number of tanning drums to 100, with the drums coming from suppliers in China and Europe. It also uses tanning machinery from other parts of Asia, notably

Hides onto horses. The company processes 2,000 bovine hides per day, but is in the middle of a project to double this capacity.

South Korea. "This is about service, really," Mr Wasin explains. "If anything goes wrong, those suppliers will have an engineer here tomorrow and that's simply not possible for most European suppliers. We have European machines, too, in addition to the drums. For example, our splitting and fleshing operation only uses Mosconi machines."

All of the finished leather it produces is for automotive but the pigskin operation is just as important in terms of output value, accounting for 40% in 2016 but pushing this figure to 50% in the course of 2017. The pigskin production is a contract operation that IHL carries out for footwear group Wolverine Worldwide [see Buyer's View article in this section]. It's a relationship that has been growing for years and is stronger than ever now, the IHL general manager says, because the leather manufacturer is intent on "making the customer feel we are people they can trust to treat their product like it was our own". It's a wet blue operation, with the skins leaving Thailand at that stage, mostly for finishing in Wolverine partner tanneries in Vietnam and China. In this, too, IHL seeks to be innovative, for example by examining ways of splitting the pigskins in the blue to produce material as thin as paper that could work well in footwear lining. Plenty of pigskin is going into uppers too: not just into Wolverine's own brands, but into athletic shoes for other companies as well.

Suppliers in focus

Wasin's sister, Wanvisa Thumrongsakunvong, shares the general manager role, although her current focus is on issues such as purchasing and human resources (another sibling is also involved in the business). She explains that IHL purchases only raw hides, which, given her father's insistence on the importance of keeping wet-end operations in house, is perhaps no surprise. Main sources include



Automotive production is on the increase in Thailand, which makes IHL's decision around 15 years ago to start making automotive leather a good one.



At the start of this century, Ongart Thumrongsakunvong took the decision to start supplying automotive leather. He says the biggest benefit is that car companies' far-sightedness allows him to plan.

south-east Asia, South America and North America, but not Europe. She describes the suppliers as companies IHL has worked with for a long time. "Becoming our supplier depends on quality, reliability and price," she says, "and quality, for us, is about how they control quality before shipping the hides to us and how they go about compensating us if anything goes wrong."

She explains that the leather manufacturer's expansion plans mean it intends to double the volume of raw material it sources from current levels of around 40,000 hides per month and she says the company will rely mainly on current suppliers to bring the extra material in. "We will look for new ones too," she adds, "at fairs, for example, or by travelling to Vietnam." Thai tanners pay no import duties on imported hides. The 20,000 pigskins IHL processes each day come from the US. The numbers are going up in the pigskin operation, she says, while the volume of bovine hides IHL is importing is, in this period leading up to its expansion project, stable.

On the machinery side, most of IHL's drums come from China at the moment, while sammying machines come from Rotopia in Korea. As mentioned, European tanning technology is in place, too, notably setting machines from Escomar and shaving machines from Mosconi. Ms Wanvisa explains that the senior management team at IHL considered two potential suppliers of drums from China before choosing one to work with. "It's not like Europe," she says. "They can reach us quickly from China if we need them. The drums are still working well after eight or nine years. Do European ones last longer, use less water and fewer chemicals and can you fit more hides into them? We're always thinking about this, but we want to see for ourselves and we want to examine what's most convenient for our workers because they're the ones that will use the technology."

A further point she makes is that tanning machinery manufacturers in general could make their products more robust. "We are near the

sea," she explains, "and the air is salty. The fact is, this interferes with the electronics in some of the machines. It would be good if someone could invent a spray to protect the electronic components. We have a spray that we use on our computers for the same reason and I'd like to be able to try something similar on the tanning machines."

As far as chemicals are concerned, her ambitions are that manufacturers will consider pre-mixing run-of-the-mill combinations of chemicals and give tanners greater reassurance over the quality of the chemicals they offer. She says: "Quality of their products isn't something we can control by sight."

Innovation from chrome shavings

A project is under way at IHL to take shaving dust from tanneries in the district and process it, using a patent-pending technique, for use as a filler in tanning, retanning and sometimes even finishing. "It makes the hides more uniform," Mr Wasin explains. "We buy hides from everywhere and we use this product to upgrade the texture of the hides. We are using waste material to add value." The process involves dissolving the shaving dust in a special hydrolysate at high temperature and then passing it through a filter press, leaving between 20 and 30 parts per million of chrome left in the solution; IHL is determined to bring this figure below 10. Tanners in the neighbourhood can send their shaving dust for free (they used to have to send it to landfill, which costs), and then they can buy the filler product to use in their own production at a discount price. IHL launched this service in August 2016 and says demand is slowly picking up, but it is using a substantial proportion of the filler product in its own tannery. "We feel entitled to use it," Mr Wasin says, "because we spent \$1.2 million on a pilot plant to test the concept. We know that there are other tanners around the world doing something similar to this protein factory that we have set up,



but not at this level." The product has a high level of purity; you can rub it into your fingers like a skincare lotion, which feels a little tacky at first but soon leaves the hands feeling smooth and clean. Plans for the immediate future include a new plant that will extract peptide and collagen from chrome-free hides (a new branch of production that IHL is trying out) for sale to the food industry; like all food-industry projects, it requires special clean-room conditions.

In partnership

Often, when tanners demonstrate a commitment to innovation, they talk about partnerships that have allowed good ideas to come fully to fruition. IHL's protein factory is a case in point. The partnership that the Thai tanning company hopes will help it spread the use of its technology and of the filler product it delivers is with leather chemical supplier Stahl. Steven Brown, Stahl's head of product management and technical services for wet-end chemicals in China and south-east Asia, is the company's account manager for IHL and a frequent visitor. He has devoted decades of service to the leather industry and insists that there is something unique about what IHL is achieving with this project. He explains: "It has different properties, in terms of what it does to the leather, compared to those of synthetic retanning materials and we believe we can develop those properties to make something unique. And from Stahl's point of view, what the protein factory is producing is a base that we can use to make other leather chemicals."

He confirms that the properties the protein product can bestow on leather include improved fullness, tightness and dyeability and what he calls a general beneficial effect. "And no down side," he adds; "not that we can see after extensive testing. What we are doing is taking a product based on leather and putting it back into leather; it has the same chemistry as the hide. It even looks good because it's colourless, and that's not always easy to achieve because you often get carry-over."

Stahl has looked at protein products before, products based on collagen; Mr Brown says that quality and purity are what set the IHL product apart. For him, something else that makes this project different is that it's a tannery that has taken the lead. "Then there is the question of this being a way of disposing of the chrome shavings," he adds, "which is important because everybody has that issue. IHL made a decision to do something about it and for us that was very impressive. It's good for sustainability and gives a good impression of our industry to the outside world. It fits completely with our philosophy as a company, so we jumped at the chance to be involved. It helps with waste management because it tackles the problem of chrome shavings and offers a benefit to the market; it's a wonderful project." Trials began in early 2016, including samples going to Stahl's headquarters in the Netherlands for tests to take place there.

Now it is scaling up, Steven Brown says, with two products in Stahl's own pipeline, the details of which are still secret at the time of writing, but may be ready to show to customers at APLF 2017 (March 29-31). "They look very good," he adds, "and fit in with our strategy of modifying our range constantly to make it more sustainable. That's our position on everything; we want to offer phenol-free, formaldehyde-free products and so on, and from the moment we had the first conversation with IHL about this project, everything just clicked. The more we try different things, the more applications we will find for it." He describes IHL as being forward-



When IHL increases its production to 4,000 hides per day it will rely mainly on current suppliers to bring the extra material in.

looking, creative, and always involved in new projects. This presents a challenge even to leather chemicals manufacturers with global reach; when tanners move forward, suppliers have to keep pace.

Mr Wasin says he welcomes Stahl's efforts to turn the filler from the protein factory into commercial products and makes the point that every successful new idea has to generate a return. Total investment so far in this initiative for IHL has been more than \$5 million, but he is still confident of generating a return within three years. "Our protein factory is the only one of its kind in the world, producing very fine protein particles that can go into the hide and improve it. There are other projects, but they seem to consist mostly of a tank into which you shake the dust and try to recover the chrome. Everyone wants to get chrome back to reuse in tanning, but we are using the liquid, too, in tanning, retanning and finishing, and others will use it too."

His partner at Stahl likes the fact that this is a long-term project, which will give the chemicals manufacturer time to develop products based on it and push for commercial success with them, and all this without the tannery divulging the secrets of its production technique, which remain proprietary. He explains: "What IHL has done has saved the rest of the industry a lot of work. We knew Ongart, Chris and the team here were confident about it when we began talking to them and, when we tested it, it looked as if it really was as good as we had been told. We don't know yet if we will be able to achieve market success with this, but Stahl will support anything that helps the outside world's view of the industry."

Workers as an asset

IHL today employs large numbers of people from the eastern side of Thailand, traditionally a farming rather than an industrial part of the country. At present, 1,500 people work for the leather manufacturer,



half from Thailand and the other half from other countries in the Association of Southeast Asian Nations (ASEAN), especially Myanmar, Laos and Cambodia. Of the Thai employees, four in every five come from the eastern region. "We treat everyone equally," Mr Wasin says, "with the same pay and the same terms and conditions for everyone, no matter where they are from." The company receives government support in its efforts to find good people overseas and bring them to Thailand. In a similar way, when it was in need of a licence to collect the shaving dust, which is a form of industrial waste, IHL received government help in the form of fast-tracking of its licence application, and a senator came to Bangpoomai to cut the ribbon at the formal opening of the protein factory.

Good work practices across Thailand have helped it achieve a favourable position for manufacturing in this part of Asia. Mr Wasin explains: "Thailand is in the middle of the region, it has free trade agreements in place with lots of trading partners, good logistics with ports such as Laem Chabang, and the mindset among Thai workers is good. When we had severe flooding in 2011, a vehicle assembly plant was one of the factories affected and the company moved production from here to Indonesia. When the quality of its operation went down it flew hundreds of Thai workers to Indonesia for them to work there. It rushed through passports for them and even hired a Thai chef to go with them. We pay attention to detail." He believes manufacturing jobs will move from China to Thailand; he says the labour force in China cannot sustain low wages and insists plenty of companies are already preparing to move production, which will make it China's main role to be the region's (perhaps the world's) "big consumer".

He adds that Japanese OEMs have said that another of the things they like about Thailand is that there are fewer public holidays and fewer stoppages during the working day than in other countries in the region. In Thailand, the only big holiday is the Songkran festival for Thai New Year, which starts on April 13 each year. Workers go to their home villages, but only for a week, to celebrate, to visit their families, attend to their farmland and so on. Other holidays tend to be just for one day and are spread throughout the year. "Japanese

The protein factory that IHL has set up to convert chrome shavings into recycled chrome also generates a new filler product that Interhides is using in tanning, retanning and finishing.

companies like people to work for eight hours and for the production flow to last for those eight hours," the IHL general manager says. "They are not keen on a work day with lots of interruptions." One of the reasons he knows this is that when he finished his (undergraduate) college education at Pennsylvania State in the US a few years ago, Mr Wasin waited before joining the family business. He travelled to Japan just to spend a year learning the language and the culture and he is still a regular visitor there now. He is sure this has helped IHL become a trusted and admired supplier among its customers there.

Environment first

Here is an interesting point about the IHL expansion project: the first part on which construction began (in late 2016) and will be completed (in April 2017) is a new effluent treatment plant. IHL already has its own effluent treatment plant and the cluster in which it operates has a common effluent treatment plant. "We haven't used the common effluent treatment plant for about seven years," Mr Wasin says. "We built our own when we began preparing for Leather Working Group (LWG) accreditation, which we took years over because that's the mindset of the people here. We are not a normal tannery: when you buy from us, you get high quality, in terms of people, suppliers, everything. The door is always open and everyone is welcome to come and walk around. We continue to be committed to the LWG and we believe this will help us in future. We are working to make leather and leather products under our own brand name and we believe that it will not be long before consumers recognise that some sources of leather are better than others."

IHL earned silver accreditation from the LWG, the multi-stakeholder body that conducts audits of tanneries to assess their environmental compliance and performance capabilities, in 2014



and gold in 2016. It called a group meeting for 'Kilometre 34' tanners to explain to its neighbours what it had learned about the LWG, telling them that the time will come when customers arrive and say they can only buy leather from accredited tanneries and that tanners who have not yet started down that road will find it too late to react.

Separately, IHL is installing solar panels in the hope of saving 30% on its energy bills, and that's with the panels going on to just one-third of a huge roof area. Expanding this project would allow it to cover more than 100% of the tannery's energy needs, but it's moving slowly. There is plenty of recycling going on, and not just of the shaving dust. Chrome goes to a chemical manufacturer to make recycled chrome products and some of the solid waste from the company's existing effluent treatment plant goes into fertiliser.

Garden party

It's on the ocean's edge, the new wastewater treatment plant; a path along which local people jog, cycle and walk runs between the two. Plans are at an advanced stage for fish ponds containing water from the wastewater plant, vegetable plots and fruit trees. IHL is planning a party to inaugurate the plant in the first half of 2017, with a tree-planting ceremony involving employees, suppliers and friends. "It will be symbolic," Mr Wasin says. "It will reflect that the company will only thrive if we all work together."

A reservoir will hold treated water for reuse in the effluent plant, supplementing other water sources in production (where possible) and in the fish ponds and IHL workers will be able to use the garden as an outdoor eating area and as a place to relax. The cyclists, joggers and walkers won't know they're going past a tannery wastewater treatment plant because the trees will screen it. The reference to other sources of water is also worth highlighting because IHL will have a second reservoir for rain, municipal supply and water from aquifers.

Customer commitment to using leather

According to Mr Wasin, IHL's customers remain committed to using leather because they want to have "the prestige of leather in their brochures", but are slightly less enthusiastic when it comes to cost. His observation is that, as a result, automotive customers are continuing with a trend that crept in a few years ago only to use leather on the contact part of a car seat, while the rest is polyurethane. Compensation comes in the form of increased volumes. Mr Ongart insists that people in this part of the world "like sitting on leather" and car manufacturers are responding. He recounts that Thailand produced 1 million vehicles a dozen years ago but that only 10,000 of them, 1%, had leather seats. In 2016, total production in Thailand was 1.8 million cars and 15% of them had "at least some leather" in the interior. "It's increased a lot in 12 years," the managing director says, "and leather production has had to increase to keep up. Here, in 1990, if you wanted leather seats you had to buy a Mercedes or BMW (which carry large import taxes). Toyota was not an option. Now, there are leather seats in all premium cars and even in trucks." He tracks the change to the opening up of China 15 or 20 years ago: "Suddenly, everyone wanted a leather sofa." He intends to promote chrome-free leather in particular when IHL has this operation fully up and running, insisting that chrome is "only one chemistry" and that it's perfectly possible to make good-quality, natural leather that is chrome-free.



Part of the cutting operation at IHL.

But he regards all leather as being a much better option than petrol-derived polyurethane, for environmental and for health reasons. "We'll be doing non-chrome very soon," he says. "It will make us more competitive. This is a time in which, soon, more than 80% of tanneries will not run their own beamhouse, but will work from wet blue or wet white or crust. I want to remain in charge of what I choose to do." This will do nothing to halt the IHL protein project; the company can continue to take in other people's shaving dust to add to its own, providing a service to other tanners in the cluster and beyond (he is sure it will be possible to take the technology to other parts of the world).

It's his son's view that leather can never be replaced. "You have to look at the full supply chain," the IHL general manager says. "People consume beef and cows are slaughtered every day; either we throw away the hide or we use it to make something attractive." He argues that we'll also always have cheaper leather because people with lower incomes will see the bags, the shoes and the car interiors the wealthy have and want a version they can afford.

Family ties

Mr Wasin is thankful to be involved in a successful business in which his whole family, his parents, his sister and his younger brother, are involved. "I also feel involved with the workers," he adds, "because some of them have known me since I was a baby. My sister and brother and I have grown up in the tannery. The relationships we have with many of our suppliers are also long-term ones. Our model is not just to make a profit; we also want to do good." There is fair treatment of all the workers, he says again, without any abuse or discrimination. "We treat the people we have here with respect," he emphasises, "and I would say that's what shows that our way of management is world class." 🌐