SUMMER INTERACTION PROGRAMME OF STUDENTS WITH SCIENTISTS
Dear Doyens and Members of the Indian Leather Fraternity; Mentors and Teachers, Colleagues and Friends!

It gives us great pleasure in sending you our June 2017 edition of The LEATHER POST.

We are happy to announce that CSIR flag is flying high! CSIR is moving ahead as we have gained grounds in Ethiopia with the Metal Industry. Alongside, is our endeavour in Kenya as well.

Sooner, we hope to be reaching out with our technologies in China as well.

We must walk hand-in-hand in our journey ahead!

I wish to thank you all for your unstinted support and kind co-operation at all times,

We will strive to make this magazine informative and interesting and welcome your feedback for improvement.

23rd June 2017
Livestock Population

According to FAO and ICT data, it is expected that the per capita meat consumption in developing countries will increase to 37 kg per annum in 2030 from 25.5 kg per annum in 2000. Growth of livestock population is concentrated in developing countries and will be consumed much by developed regions. Accordingly, the livestock population had significantly increased in developing nations over the last two decades. The cattle livestock population in Kenya stood about 20.8 million in 2015, which is 4th in Africa after Ethiopia, Sudan and Tanzania. The livestock population in Kenya is on a gradually increasing trend over the years between 2008 and 2015 (Figure 1.1). The increase in cattle from 2008 to 2015 is about 13%, whereas sheep and goat in the same time period increased by 20% and 15% respectively.

Figure 1.1: Kenyan Livestock population (in million heads)

Production of Hides and Skins

In line with the growth of the livestock population, production of hides and skins also increased in developing nations compared to developed countries. In terms of production of hides and skins particularly cattle hide, Kenya stands at 4th in Africa (Table 1.1). The number of livestock and the availability of hides and skins in major countries of livestock, during the period between 2008 and 2015 is presented in Table 1.2.
It is evident that the availability of hides and skins vs the livestock tremendously decreased in 2012. Based on the ratio on the number of hides and skins produced vs the livestock available (from the FAO data in Table 1.2), the percentage of hides and skins recovered from the livestock was determined and presented in Figure 1.2. Compared to 2011, though the livestock population increased in 2012, the availability of hides and skins decreased to the tune of 5% in the case of hides and about 40% in the case of skins. It may also be noted that in 2015, the recovery of skins still stands very low at 10%. From 54 million livestock of goat and sheep, only 5.3 million skins were recovered. At an average off take rate of 30% for goat and sheep, nearly 11 million skins are not benevolently utilized for the leather value chain. Kenya might be missing an opportunity for value addition from 70% of goat and sheepskins, which would translate into a volume of 50 million square feet of leather annually.

### Table 1.2: No. of livestock population Vs hides and skins availability from 2008 to 2015

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Sheep</th>
<th>Goat</th>
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<tbody>
<tr>
<td></td>
<td>Livestocks</td>
<td>No. of hides</td>
<td>Livestocks</td>
</tr>
<tr>
<td>2008</td>
<td>18.4</td>
<td>3.1</td>
<td>17.1</td>
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<tr>
<td>2009</td>
<td>17.5</td>
<td>3.2</td>
<td>17.1</td>
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<tr>
<td>2010</td>
<td>17.9</td>
<td>3.1</td>
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<tr>
<td>2011</td>
<td>18.2</td>
<td>3.0</td>
<td>17.8</td>
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<td>2012</td>
<td>19.1</td>
<td>3.0</td>
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<td>2015</td>
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Figure 1.2: Ratio (in %) of availability of hides and skins vs respective livestock population from 2008 to 2015
Therefore, concerted efforts through a series of interventions are essential to overcome the loss of opportunity in value and economic growth for the country.

The production of cattle, goat and sheep in terms of number of pieces and in weight terms are presented in Table 1.3. As of 2015, Cattle hide to the tune of about 47.4 thousand tonnes, as wet salted weight is available for leather manufacture. In the case of skins both goat and sheep together accounts for about 3.1 thousand tons (dry weight), which would be equivalent to about 6 tons wet salted weight.

**Table 1.3: Production of hides and skins in Kenya; in terms of no. of pieces (in million pieces) and weight (million Kgs)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cattle</th>
<th>Goat</th>
<th>Sheep</th>
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<tr>
<td></td>
<td>No. of pieces</td>
<td>Wet salted weight</td>
<td>No. of pieces</td>
</tr>
<tr>
<td>2008</td>
<td>3.1</td>
<td>45.8</td>
<td>4.1</td>
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<td>2011</td>
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<td>2014</td>
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<td>47.6</td>
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<td>2015</td>
<td>3.2</td>
<td>47.4</td>
<td>3.2</td>
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</table>

**ACTIVITIES CARRIED OUT BY CSIR-CLRI IN KENYA**

CSIR-Central Leather Research Institute (CSIR-CLRI) had supported the project of Kenya Leather Industry Development Programme (KLIDP) undertaken by IL&FS and sponsored by USAID East Africa Hub. CSIR-CLRI team consisting of Dr B Madhan, Dr R Aravindhan and Dr S Sundarapandiyan visited Kenya for a period of one month between April-May 2017 to undertake the activities under the KLIDP.

The following activities were carried out by CSIR-CLRI:

- Visit to slaughterhouses, tanneries and institutions
- Training workshops on
  - Hides and skins quality improvement, training of trainers programme &
  - Cleaner and efficient leather manufacture, training programme for tanners

**Visit to slaughter houses, tanneries and institutions**

Following slaughterhouses were visited.

- M/s Bahati Slaughterhouse, Limuru
- M/s Nyongara slaughterhouse, Dagoretti

On 20th April, 2017 the team comprising of Dr. Edwin Muttai, IL&FS, Dr R Aravindhan and Dr S Sundarapandiyan, CLRI and Mr. George Onyango, KLDC visited Bahati Slaughterhouse at Limuru, Nairobi. Slaughtering of cattle, goat and sheep is carried out in M/s Bahati slaughterhouse. However, cattle were slaughtered in huge numbers (50-60 cattle per day). Mr. Alex, manager of the slaughterhouse guided the tour.

The team also visited a hide preservation area located at Limuru. Wet salting method is being followed to preserve the hides. It was observed that they were reusing the used salt for preservation of hides.
On 21st April 2017, the team visited Nyongara slaughterhouse at Dagoretti. There are four slaughterhouses at Dagoretti. These four slaughterhouses slaughter about 600 to 800 cattle per day and sometimes even 1000 per day. Nyongara slaughterhouse slaughters cattle, goat and sheep. The animals for slaughter were segregated on the basis of the origin. The slaughterhouses are well maintained and it houses a huge animal storage area. The hides after storing are then moved to the preservation yard. The hides are stored in the designated preservation yard till the salting is done.

In continuation of the visit to slaughter houses, CSIR-CLRI team visited following tanneries on 20th April 2017:

- M/s M/s Azeez Tannery, Nairobi
- M/s East Africa Tannery, Nairobi
- M/s Nakuru Tannery, Nakuru
- Alparama Tannery, Athi River area

The team also has visited the following institutions:

- Animal Health & Industry Training Institute (AHITI)
- Kenya Industrial Research and Development Institute (KIRDI)
- Kenyan Leather Development Council (KLDC)

On 21st April 2017, the team visited Nyongara slaughterhouse at Dagoretti. There are four slaughterhouses at Dagoretti. These four slaughterhouses at Dagoretti. These four slaughterhouses slaughter about 600 to 800 cattle per day and sometimes even 1000 cattle.
Training of trainers’ workshop on Hides and Skins Quality Improvement was aimed to transfer the skills to key people associated with handling hides and skins. The objective of the training program is to train the personnel and in turn the trained personnel would provide training to others. The program was conducted for two days during 24th and 25th April 2017. About 11 nos of trainees participated in the training program. These key people are expected to be change agents for transferring the knowledge and creating awareness on better handling of hides and skins to about 150 people throughout Kenya.

Following topics were presented and discussed.

- Leather value chain – Hides & Skins
- Ante mortem defects in hides and skins
- Practices in flaying
- Post-mortem defects in hides and skins
- Identification and Grading of hides and skins
- Principle associated with preservation of hides and skins
- Practices of wet salting method of preservation
- Cleaner methods of preservation
As a part of hides and skins quality improvement program, it was planned that CLRI team will monitor three batches of sensitization program conducted by the trainers trained by CLRI team. Accordingly, three members of Dagoretti complex who undertook training were asked to train 15 people each. Three batches of 15 people each, consisting of flayers and people handling hides and skins were trained. In the training, the importance of hides and skin and the value it can generate during the conversion into leather and leather products were covered. In total about 45 people were trained at the Dagoretti Slaughter house complex. CLRI team had observed that all the three trainers at Dagoretti complex have done an excellent job in transferring/sharing the key aspects affecting the quality of hides and skins. This network of mass training activity is expected to have an impact in handling the hides and skins and to improve the quality of hides and skins.
The second training program on the “Cleaner and efficient leather manufacture” was conducted at the Conference hall of Kenya Industrial Research and Development Institute (KIRDI), Nairobi, Kenya from 4th to 17th May 2017. For this training program, the trainees selected were personnel working in tanneries, academic and research institutions. The training program was designed in such a way that the trainees were provided both the theoretical and practical training on various cleaner leather process technologies. About 18 personnel had been trained in cleaner and efficient leather manufacture. The training program was designed in providing an overall picture of the following aspects:

The trainees of both the programmes had expressed great satisfaction of learning. Stake holders from Ministry of Industry, KLDG, KIRDI, AHITI, Leather Entrepreneurs Association (LEA) and USAID East Africa hub had been part of the certificate distribution programmes.
INDIAN LEATHER INDUSTRY - STRIDING WITH CONFIDENCE

COUNCIL FOR LEATHER EXPORTS
(An Export Promotion Organisation sponsored by Ministry of Commerce & Industry, Govt. of India)
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Regional Offices: • New Delhi - cledelhi@cleindia.com • Kanpur - cleknp@cleindia.com • Kolkata - cleer@cleindia.com • Mumbai - clem@cleindia.com
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The Leather Post
Team CSIR-CLRI comprising Mr. K.Karthikeyan, Mr. K.Gnanaprabhu, Mr. G.Arun Raj, Mr. Amit Kumar Prajapathi reached on 20th May 2017 at Imphal, Manipur and visited the venue of training at CSIR NEIST, Sub Centre at Imphal, Manipur and examined the various stitching machines, skiving machines and other necessary machines required for the training cum demonstration programme. Most of the machines were jammed and required servicing. On 21st May 2017, Mr.Gnanaprabhu took the lead in servicing all the required machines along with the other team members.

Team CSIR-CLRI elaborated in detail about the facility and the products that were proposed for the training programme.

The trainees assembled at the training centre in the afternoon session for a discussion about their current skill level, experience and educational qualification. Few of the trainees had prior knowledge on stitching and weaving of textiles. During this session, an understanding about the trainees were obtained which helped the trainers to fine tune the training plan.

Fifty two trainees enrolled for this training programme and they were grouped into two batches. One team was handled by Mr. Arun Raj and the other team was assigned to Mr. Amit Kumar.

The trainees were exposed with the design process of the file folder and the usage of the product. The outer styling was explained with the usage of textile as well as leather combination. The inner layer was fabricated by lining material and slot made out of leather for A4 sheet holder.

The training was given in the following fabrication process:

1) Exterior styling
2) Leather pattern development
3) Textile component cutting
4) Leather component cutting
5) Skiving of leather
6) Applying adhesives
7) Folding techniques
8) Reinforcement materials
9) Lining material cutting
10) Stitching of the final product
The second product that was demonstrated to trainees was a Conference bag. This product was selected as it could be used in meetings and conference in Imphal & surrounding areas where university as well as various educational institutions were located. Since this product is developed with local ethnic material, this could be used as a unique product to promote the essence of North East.

Similar to the earlier product, this conference bag demonstration includes various steps of design and fabrication. Preparation of Gusset to provide the volume for the product was also demonstrated to the students.

The trainees were given hands on training in cutting of patterns, leather components and application of adhesives. After the assembly, various components were stitched in the sewing machine and the trainees were given hands on training in stitching also.

The third and final product in the training was Ladies hand bag. The trainees were given hands on training in pattern cutting and cutting of leather pieces required for the product fabrication.

They were given training in step by step fabrication process including fixing of rope on the handle of the bag. Final products were stitched by the trainees.

On the final day, the trainees were asked to develop the patterns for products that were developed during the previous three days. This session also gave the trainees to clarify the doubts that they had on the product development. They were also given the exercise to create the patterns for randomly picked bags bought by the trainees.

The training, on final day concluded with feedback session and certificate distribution to the trainees. Dr.H.B.K Singh, Scientist in charge, NEIST Substation, Imphal, Manipur, discussed with the beneficiaries about training programme. The certificates were handed over to the trainees after the feedback session.
Dr N Nishad Fathima, Principal Scientist, Chemical Laboratory, CSIR-CLRI visited RWTH University, Aachen, Germany under the prestigious INSA-DFG fellowship (under international collaboration/exchange programme) for a period of 3 weeks between 10.5.2017 and 1.6.2017 to carry out NMR measurements on collagen and leather.

“Structure and dynamics of collagen molecules and collagen matrix continue to attract great scientific interest, especially in the field of molecular mobility”

Structure and dynamics of collagen molecules and collagen matrix continue to attract great scientific interest, especially in the field of molecular mobility of bound water at different level of hydration and role of cross-linking in changing the properties, which are important for tissue engineering applications as well as tanning applications. Cross-linking collagen molecules changes the tissue hydration and macromolecular content. There are still open questions on how these changes are reflected in characteristics/parameters measured by magnetic resonance (MR) methods. It is critical to differentiate water-fibre interactions and all changes connected with cross-linked collagen nano-scaffolds for tissue engineering.

Relaxation times of both T1 and T2 of collagen fibers crosslinked with different ionic liquids (ILs) were measured. Understanding the changes brought about in the hydration dynamics of collagen after interaction with ILs will give key insights into how ILs stabilize or destabilize collagen for performance of these scaffolds for biomedical or tanning application. Results obtained illustrate the unexploited potential of MR methods for the study of molecular mobility of collagen crosslinked by different ILs and correlate the changes in hydration dynamics with the changes in the secondary structure of protein after crosslinking.

Dr Blümich’s group at RWTH is a world renowned research group in the field of NMR. His expertise on NMR value added in designing the NMR experiments to address the hydration changes issue in collagen. Dr Nishad’s experience in understanding collagen-ionic liquids interaction through various biophysical studies on collagen aided in unraveling the propensity of few ILs to stabilize and others to destabilize collagen.

Pore sizes of leathers and the influence of tanning agents on the pore properties of leathers has also been brought out

Low field NMR measurements on different types of leathers viz. chrome, vegetable and oil tanned were also carried out using NMR MOUSE developed by Dr Blümich’s group. Relaxation, diffusion and profiling measurements at different depths of the leathers were carried out. Results indicate the significant influence of different tanning agents on the hydration dynamics of collagen. The relaxation times have been correlated with the pore sizes of leathers and the influence of tanning agents on the pore properties of leathers has also been brought out.
CSIR-HRDC Ghaziabad conducted a CSIR Leadership Development Programme at CSIR-NIO, Goa between 29.05.2017 and 02.06.2017. 22 Scientists from various CSIR laboratories participated in the leadership program out of which 5 scientists were from CSIR-CLRI. The program which ran for 5 full days had two components, the first one was talks from eminent leaders of CSIR, past and present who discussed various aspects relating to CSIR, such as business development, self-sustenance, role of leadership, technology transfer etc. followed by lectures, practical demonstrations, group activities etc. by Shri Varun Harnal, Director of Human Training Consultants, who took the participants through various activities such as personal mastery – understanding of self and emotional intelligence, roles and styles of leadership, effective presentation skills, building effective team and collaboration, communication and influencing etc. The program inculcated in the scientists the aspects of emotional intelligence and how to group people working with them in terms of ability and acceptance. Aspects of trust, time management, delegation, task management etc. were introduced through practical demonstrations and exercises. Overall, the program had an equal mix of introducing leadership in the participants through historical strengths of CSIR and also through modern techniques of training and experience sharing. The participants representing organizations such as CSIR-NAL, CSIR-NIO, CSIR-CECRI, CSIR-NML and CSIR-CLRI developed a culture of working together for the betterment of CSIR and the Nation.
CLRI has started a students’ forum to increase interaction among the researchers to share the science and other technical information. As a part of student forum activities students’ seminar has been planned to be conducted every week on Friday. Mr. M. Sathish presented the 1st seminar entitled “Science & Technology of Leather Making: Past, Present and Future” at B.M Das Hall on 09/06/2017, 3.00 PM. About 100 people participated in the seminar.

In that presentation, he has covered “Ancient leather making practices and leather in Tamil Sangam Literature”. He also covered the current practices of leather making and its pros & cons. He also expressed his future view on leather making such as “waterless leather manufacturing and multifunctional leather auxiliaries.”

COVER STORY: JIGYASA 2017 is an endeavour to engage the Students to interact with Scientists and imbibe Science. A five-days programme was organized in CSIR-CLRI from 22nd to 26th May 2017 wherein the students were exposed to special lectures, good laboratory practices, leather processing and modelling. The programme also had video shows in the various aspects of Leather Science & Research.
Stay Clean technology

To protect surfaces against typical strains, Stahl developed Stay Clean. This revolutionary coating technology protects pale colored leather and vinyl surfaces against common stains, such as dye from jeans, spilled coffee and dirt. Stay Clean is particularly interesting for car interior designers who love to apply pale colored materials to create a lush atmosphere. It also makes surfaces low-squeak, which is a great benefit as global research showed that a squeaking car interior is one of the biggest annoyances among car owners. Besides Automotive, the pale color trend is also popular among home interior designers. They use it to create a bright and light living environment, of which the popular Scandinavian design is a great example.

Hindering dirt pick-up

Stay Clean protects the surfaces by hindering the pick-up and migration of stains and dyes into the substrate. If the surface does get a bit dirty, Stay Clean enables easy cleaning as well. The Stay Clean product range consists of both matt and gloss finishes. Specific crosslinkers and surface modifiers enhance the abrasion resistance and touch.

Stahl NEO

Stahl Neo is our new portfolio of compliant and sustainable finishes. Launched in 2016, the product line offers products that not only already comply with Zero Discharge Hazardous Chemicals (ZDHC), Manufacturing Restricted Substances List (MRSL), but even go beyond this standard, targeting an even wider range of chemical substances.

Stahl Neo offers endless possibilities and the product portfolio is especially interesting to tanners that value health, the environment and the future of their business. The leather finishing product group includes top coats, base coats and so on.

Stahl Neo is particularly interesting to those who are active in the segments - footwear & leather goods, garment and upholstery. At the outset, Stahl Neo features products from the current Stahl portfolio, while new products are intended to be part of the Neo-line in the future.

Milling Chemicals

Stahl’s Milling Chemicals optimize the dry milling process and enable tanners to upgrade the leather quality. The Milling Chemicals products MC-22-183, MC-22-392 and MC-22-465 are part of Stahl Neo. Be it for fashion, accessories or lifestyle, the Milling Chemicals range adds gloss and character to finished leather goods. Our solutions account for softening, pull-up effect, milling effect, and a host of other special effects.

Stahl’s Milling Chemicals add value and an unrivaled feel to leather goods such as bags, belts, shoes and garments. The products boast a variety of applications and are suitable for almost all tanning methods including Stahl EasyWhite Tan™, chrome tanning and vegetable tanning.

Possible applications for Stahl’s Milling Chemicals vary from all kinds of tanning and retanning to final feel agents and softeners for finished leather. The portfolio features four solutions suitable for all common drums equipped with humidity and temperature control as well as injectors.

Polymatte®

At Stahl, we asked ourselves: why doesn’t a finish exist that is matt in itself? This interesting question led us to develop the extensive Polymatte® portfolio that we offer nowadays. Our Polymatte® offers a smooth finishing technology that is matt in itself. Leather and synthetics like vinyl, polyurethane or polyolefin based materials can be given a long-lasting matt finish with superior aesthetic and technical value.

Polymatte® is a proprietary Stahl polyurethane dispersion technology and compatible with water-based, polyurethane coatings. Polymatte® forms a matt and smooth surface structure during the film forming and drying stage, which means fillers are not needed. The polyurethane nature of Polymatte® provides a luxurious feel to the finished article. Also in terms of flexibility, scratch and abrasion resistance Polymatte® exceeds other matting agent technologies on the market.

Key benefits

- A film forming matting agent
- Low to extreme low gloss (<1% at 60° angle)
- Long-lasting, pleasant touch
- Durable non-porous surface
- Mar and scratch resistant
- No squeaking
- Low VOC

Our Polymatte® portfolio

We offer an extensive portfolio of Polymatte® to provide custom-made coatings that meet the most stringent requirements in terms of aesthetics, performance and sustainability. Our Polymatte® portfolio contains many products, varying from finishes, duller concentrates, crosslinkers and thickeners, to leveling agents, defoamers, colorants and hand modifiers. In addition, we have developed ‘Green Polymatte®’ which is based on rapeseed oil (20%) instead of crude oil derived intermediates.
A delegation from Chemical and Construction Inputs Development Insitute (CCIDI) of the Federal Democratic Republic of Ethiopia led by His Excellency Alamu Sime, State Minister for Industries and Samuel Halala, Director General, CCIDI visited CSIR headquarters at New Delhi and CSIR-Indian Institute of Chemical Technology (CSIR-IICT) at Hyderabad. The Director, CSIR-Central Leather Research Institute (CSIR-CLRI) facilitated their visit to CSIR – Strutural Engineering Research Centre (CSIR-SERC) at Chennai. The delegation has also evinced interest in the technologies of CSIR-CLRI for Leather Chemical Auxiliaries to be produced indigenously in Ethiopia.
AstorMueller, maker of Bugatti and Daniel Hechter, celebrates 10 years of shoe-making in India

Source: Indiaretailing Bureau

AstorMueller, one of the largest exporters of premium shoes in the country, recently marked 10 years in India. Headquartered in Bangalore and set up in 2007, AstorMueller was one of the early movers and the first major European shoemaker in the manufacture and export of high-end shoes, even before the ‘make in India’ initiative came to the fore.


From a meagre 400,000 pairs back then, the company now produces 4 million pairs of shoes in India – almost all of which are exported to Europe (figures are 2016-17).

Europe’s latest styles, made in India

India is the largest producer of Bugatti and Daniel Hechter shoes for AstorMueller, operating with a network of production facilities in Agra, Ambur, Vellore, Ranipet, and Dewas.

AstorMueller is accredited with having contributed immeasurably to the Indian shoe industry, by introducing advanced German techniques, systems and processes, enabling both scale and quality to take a quantum leap.

said Consul/ Head of Administration, German Consulate, Bangalore, Uwe Hahn said “AstorMueller is the ideal symbol of German-Indian collaboration in an industry that plays an important role in people’s everyday lives. A German company contributing to the development of the manufacturing sector in India, making shoes of the highest quality, is a strong indication of where we can go in the future.”

AstorMueller India is an enterprise comprising 280 people, and the Group’s ambition to truly ‘make in India’ has equipped regional supply partners with the latest manufacturing know-how and technologies, ensuring quality on par with Europe’s most elite shoemakers, while maintaining AstorMueller’s global quality and design standards.

A journey of 10 years in the making

When asked about the AstorMueller’s acknowledgement of India’s potential more than a decade ago, Vice Chairman, Council of Leather Exports, Aqeel Ahmed, said, “If people trust you, they will do business with you. AstorMueller trusted India and they did business with India. Today, India produces 4 million pairs of shoes annually for them and I congratulate them on this achievement.”

Executive Director, Council of Leather Exports, Ramesh Kumar, spoke of AstorMueller’s success in satisfying global demands with India as a manufacturing hub, which has proved that state-of-the-art manufacturing facilities for multinational brands have a home in India. He stressed that this is not only impressive from a business perspective, but is also encouraging for other international brands who want to ‘make in India’.

Chairman, AstorMueller, Tim Mueller, commenting on the milestone said, “From the beginning, we have only used the finest materials carefully chosen and sourced from around the world. The objective is then to combine these materials with our own design expertise and technical knowhow. Finally, with the craft-making tradition that India is famous for, we craft our shoes to a state of perfection. We proudly say we have Indian DNA.”
CSIR clinches $7 million support deal in Ethiopia

the largest programme between CSIR institutes and a foreign entity in terms of contractual amount. The Indian scientific research body had earlier signed a similar deal with Ethiopian institution for developing leather and leather products a few years ago.

Keeping in line with Prime Minister Modi’s stress on stronger and long-term cooperation between African countries and India for mutual benefits in the areas of agriculture, women empowerment, rural development, infrastructure, etc., while addressing the annual meeting of African Development Bank at Gujarat recently, the Council of Scientific and Industrial Research (CSIR) has entered into an agreement with the Metal Industries Development Institute (MIDI), Ethiopia to implement a twinning programme. The same is aimed at R&D capacity building of MIDI. CSIR has clinched this multi-million US dollar assignment through a process where many international organisations were considered. The Twinning is one of the largest programs (in terms of contractual amount) between CSIR institutes and a foreign entity. It should also facilitate CSIR’s future collaborations with African Organizations.

During the signing ceremony, Ethiopian counterparts have praised the role of CSIR-CLRI in facilitating this assignment and hoped for its success as it was in the case of leather Twinning with Leather Industry Development Institute (LIDI).

Dr. Girish Sahni, DG, CSIR on the occasion said that the knowledgebase of CSIR in the identified areas could be of immense importance for leveraging the technology capacity of African countries. He invited the industry to join hands with CSIR and its counterparts in respective African countries to deploy the technology for benefitting the masses in the region.

The agreement was signed by the Director of National Metallurgical Laboratory, Jamshedpur (CSIR-NML) on behalf of the participating CSIR Laboratories, and the Director General of Metals Industry Development Institute (MIDI), Addis Ababa, Ethiopia. CSIR will enhance the capacity and capability of MIDI under the twinning arrangement and thereby enable it to contribute more efficiently towards the development of Metals and Engineering sectors in Ethiopia and thus enhance their competitiveness. The MIDI will be positioned to emerge as a globally competitive center of excellence in the field of Metals and Engineering through this twinning programme.
The 3rd International Yoga Day was celebrated at CSIR-CLRI on 21st June 2017. The function commenced with the prayer song and the Common Yoga Protocol (CYP) was followed under the guidance of Dr T Thangamani, Physical Director. Dr B Chandrasekaran, Director, CSIR-CLRI presided over the function and participated himself in the Yoga demonstration. The staff of CSIR-CLRI took International Yoga Day oath along with the Director, CSIR-CLRI. Swami Vimurthananda, Manager – Shri Ramakrishna math, Chennai and Editor, Shri Ramakrishna Vijayam, being the chief guest for the function, delivered his address on Yoga and graced the occasion.

The following lectures were organized by CSIR-CLRI as part of International Yoga Celebrations.

- Lecture on “Yoga and Stress Management” by Shri Bijudev on 6th June 2017
- Lecture on “Inner Engineering” by Shri Ram from Isha Yoga on 8th June 2017
- Lecture on “Common Misconceptions about Yoga” by Smt. R Priyavadhani, Yoga Expert on 19th June 2017

CSIR-CLRI staff attending Yoga Lecture

Tripartite agreement signed between CSIR-CLRI, M/s. SRM Institute of Science & Technology (SRMIST), Chennai and M/s. Econo Services (India) Pvt. Ltd., Chennai on 12th June 2017 to license the Fluidized Immobilized Carbon Catalytic Oxidation (FICCO) technology and also to provide consultancy service for establishing the FICCO reactor at the premises of SRMIST.
VENUE:
HALL 18, PAVILION 12H
PRAGATI MAIDAN,
NEW DELHI

Website: www.indiatradefair.com

FOOTWEAR
MATERIALS
COMPONENTS
MACHINERY

CHEMICALS