“Creating Quality Manpower for the Indian Leather Industry & going Global”
Dear Doyens and Members of the Indian Leather Fraternity; Mentors and Teachers, Colleagues and Friends!

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

This edition focuses on Nurturing Human Resources for Leather Sector: The Role of CSIR-CLRI in Education and Training. Another important feature is the readily available Technologies from CSIR-CLRI for commercialization which would be useful for the Industry Members Globally and start-ups alike.

We have launched the tendencies in leathers & colours Spring Summer 2019 season in preparation for the forthcoming MODEUROP Roundtable.

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.

24th July 2017

Dr B Chandrasekaran,
Director, CSIR-CLRI

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“It gives a meaningful employment to middle class intelligentsia to contribute to social empowerment.”

CSIR-Central Leather Research Institute, (CSIR-CLRI) Chennai, India has played a pivotal role in the development of Indian leather sector. One of the most important roles played by CSIR-CLRI is the direct participation in education and training and development of innovative models for imparting education and training to a varied target learner group. Education and Training had been an embryonic mandate of CSIR-CLRI ever since its inception. Today, leather industry occupies a significant position in the Indian economy and is the 8th largest foreign exchange earner for the country. The industry has adapted changes in traditional practices followed hitherto. The role of CSIR-CLRI and the industry partners is indispensable in enabling this transition.

Industry-academy-research interaction has emerged in the technology education, and CSIR-CLRI symbolizes the culmination of this symbiotic relationship. Various education and training programs were designed and conducted at CSIR-CLRI ever since its inception to suit varied human resource needs of the leather industry. This was possible only by sharing the research infrastructure with education and training needs. The relevant needs of the industry are closely monitored during the pre-independence period, organized tanning activity was narrowed to a few British owned tanneries only. But certain significant historic events like the First World War fashioned the pattern of industrial production in India, i.e. transitioning to an organized scale. The requirements of the British army personnel in large volumes necessitated formal training of human resource in leather tanning. The first tanning school was set up in Chennai in 1914. Subsequently tanning centers were set up in various leather centers pan India including Kanpur (1916), Calcutta (present Kolkata) (1919), Jalandhar (1934) and in many places post Independence. These tanning schools imparted technical education leading to vocational courses. But as the organized scale of production increased, it was felt that technical education should be adorned with professional education also to nurture quality manpower at all levels. This called for an advent of formalized education through professional courses in the field of Leather Technology.

The University of Madras had stepped forward as early as 1945 to offer courses in technology especially Chemical, Textile and Leather. The seed was sown by Dr. Alagappa Chettiar, the great philanthropist and humanitarian of the times, who endowed a grant of Rs.5 lakhs towards the same. The University of Madras established the Alagappa Chettiar College of Technology (A.C.Tech) to offer professional courses in technology. The attempt and efforts towards professionalizing leather technology education in the 1940’s has uniquely positioned the course, rather than classifying it as a customary engineering/technology programme. Initially the leather technology programs were of two years duration where students had to take up this course after a basic science degree leading to B.Sc (Tech) degree. Thus, this programme was basically a post-graduate degree. The first batch of leather technology graduates (B.Sc. Tech.) passed out in 1947.

History of Leather Education in India and CSIR-CLRI

During the pre-independence period, organized tanning activity was narrowed to a few British owned tanneries only. But certain significant historic events like the First World War fashioned the pattern of industrial production in India, i.e. transitioning to an organized scale. The requirements of the British army personnel in large volumes necessitated formal training of human resource in leather tanning. The first tanning school was set up in Chennai in 1914. Subsequently tanning centers were set up in various leather centers pan India including Kanpur (1916), Calcutta (present Kolkata) (1919), Jalandhar (1934) and in many places post Independence. These tanning schools imparted technical education leading to vocational courses. But as the organized scale of production increased, it was felt that technical education should be adorned with professional education also to nurture quality manpower at all levels. This called for an advent of formalized education through professional courses in the field of Leather Technology.

The scope of HRD for Leather Industry is widening and there is a high demand for skill requirements at all levels right from artisanal training to tertiary level resources. This is a result of the value addition through R&D achieved so far by the sector through CSIR-CLRI, which corresponds with the increased demand for quality manpower. Although, there are many institutions that came into existence providing leather education of late, CSIR-CLRI still remains unique in its endeavor. Tertiary human resource of Indian leather sector comprises mainly alumni of CSIR-CLRI. Over the period of time, its far-reaching contributions were at all levels of HRD: primary, secondary and the pioneering tertiary. Currently, CSIR-CLRI is the first of its organization in CSIR to develop manpower at all the 10 levels of National Skill Qualification Framework (NSQF). HRD for leather sector along with research is one of the maiden objectives of CSIR-CLRI. It has set an example to all other research labs in India in that every R&D establishment has an intrinsic commitment to be a ‘Teacher of the society concerned’.

The Leather Post
In 1950, A.C. Tech building was completed and ready. The Department of Leather Technology was moved from Washermanpet to Guindy in June 1951. On the demise of Prof. Seshachalam Choudhary, Mr. Siviah Choudhary, Principal of Institute of Leather Technology (ILT) was appointed to act as the Head of Department of Leather Technology. Dr. A.L. Sundara Rao, Planning Officer, CSIR-CLRI helped in conducting the classes. The role of CSIR-CLRI until then was to provide the necessary backing for the conductance of the programme. CSIR-CLRI by then had its full-fledged tannery operations.

Also CSIR-CLRI had already started associating itself with the leather industry, which was then operating in the cottage sector. Use of basic equipment for various tanning operations was introduced to the tanners and CSIR-CLRI’s model tannery served as a great source of inspiration to the cottage tanners. All these factors coalesced together and served as a motivator for the University of Madras, which then handed over the Department of Leather Technology to be housed at CSIR-CLRI. This step of the University was way forward in realizing the role of CSIR-CLRI to be the sole organization with respect to academy too.

Milestone Events for Academic Leather Education at CSIR-CLRI

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1944</td>
<td>Establishment of A. C. Tech and in 1945, a 2 year post B.Sc. (PG) programme in Leather Technology, known as B.Sc. (Tech) was introduced and continued upto 1958 with University of Madras</td>
</tr>
<tr>
<td>1955</td>
<td>The first Ph.D in Leather Technology was presented to Dr. E.C. Mathews</td>
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<tr>
<td>1956</td>
<td>Commencement of the 1st M.Sc. (Tech) by Research degree</td>
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<tr>
<td>1957</td>
<td>B.Sc. (Tech.) programme was introduced and in 1961 this program was replaced with a 5 years B.Tech.</td>
</tr>
<tr>
<td>1963</td>
<td>2 year M.Tech degree program introduced in leather technology</td>
</tr>
<tr>
<td>1978</td>
<td>Anna University was established and A.C. Tech became a part of Anna University</td>
</tr>
<tr>
<td>1980</td>
<td>Introduced the 4 year B.Tech. degree programme in Leather Technology</td>
</tr>
<tr>
<td>1983</td>
<td>3 semester M.Tech. degree in Leather Technology was introduced</td>
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<tr>
<td>1987</td>
<td>M.Tech. degree in Footwear Science and Engineering was introduced</td>
</tr>
<tr>
<td>1996</td>
<td>M.S. (by research) Programme commenced in the Department of Leather technology, Anna University</td>
</tr>
<tr>
<td>2000</td>
<td>Developing professionalism among working technicians, a 7 semesters B.Tech (part time) degree programme in Leather technology was introduced</td>
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<tr>
<td>2002</td>
<td>M.Tech degree programs were converted into a four semester course</td>
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<tr>
<td>2015</td>
<td>Alumni base of Dept of Leather Technology, Anna University – CLRI crossed 1500</td>
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</tbody>
</table>

Research-Industry-Academic – Triple Helix Model at CSIR-CLRI

Academy-Research-Industry interaction enhances better co-ordination between industrial houses and engineering education institutions. Any well-designed and developed chain in an innovative sector would call for a symbiotic relationship among the trinity of academy-research-industry. Education pertains to the preparation of an unprepared mind. Training deals with the preparation of an underprepared mind.

Academy is designed to create new ideas. Research is structured to add values to such creative ideas and reduce risk through the development of waste management and cutting edge technologies. Science links academy with research. Technology links research with manufacture and industry. The science and technology chain in leather technologies in India is linked by CSIR-CLRI through a unique function. CSIR-CLRI plays the role of three-dimensional organization simultaneously in HRD programs. It is involved in education, training and consultation simultaneously. Therefore, the various stages of preparation of mind are being catered to by CSIR-CLRI under a single roof.
The technological education system caters to two types of courses namely conventional and industry oriented courses. In conventional courses, the output indicator is not required whereas technological education in leather has direct impact on the industrial growth as technical education provides the human resources, manpower for a successive economic growth of a country. Technological education forges ahead of the industry. The success of economic reforms depends upon the quality and quantity of technical manpower engaged in manufacturing and service sectors. Social ethos and work culture of the society do influence learning skills and methods. A close interface of the technical education and the public policy of the nation are necessary as the society expects higher education to develop technology, productivity, international competitiveness and the economic development. The environmental constraint posed by the leather processing demands innovations in technical education.

India has accepted the policy of globalization and has produced world-class adaptive work force. The ever-increasing competition at national and international scenario would impose upon highly qualified trained human resources an ability to remain competitive. An important development in technical education in leather technology in India is in the design of various courses, course materials by CSIR-CLRI matching the needs of various target learner groups. It was recognized that value addition to leather is best achieved through technology, leading to a change in the outlook of manufacturing systems, which gained much importance during 1950’s and 60’s. CSIR-CLRI has played the role of the agent of change. The technological capacity into manufacturing systems of India has grown in leaps and bounds during 1980’s, 90’s, the millennium and beyond.
As an institute with strengths in many areas of leather as well as frontier areas of science, CSIR-CLRI is able to harness in faculty resource to cater almost any need of HRD activity in the area of leather technology. Strong ties and a continuous interaction with the industry help CSIR-CLRI to fine tune academic and vocational training programs periodically to suit the changing needs of the manufacturing systems in leather sector. This three-way interaction among industry-research-academy has helped in setting up a unique base for education and training in the area of leather and related technologies.

Recent Student Strength at CSIR-CLRI

Education and Training Paradigms at CSIR-CLRI

Today, the Leather Industry in India being mostly manned (tertiary level) and managed by the alumni of CSIR-CLRI, the Institute’s training Paradigm is one of its kind imparting the much needed technical as well as professional skills. CSIR-CLRI, being an organization of rich pedigree, believes in synergetic efforts to culminate into the best of outputs. Hence, the Institute has entered into many HRD partnerships as well, apart from R&D partnerships to gratify the HRD element of its mandate. CSIR-CLRI is proficient enough to guide in policy-making for the Leather Industry in all aspects including Technology, R&D and HRD. The Institute is instrumental in development of quality manpower with respect to skill at all levels and capacity building as well. Moreover, Government of India recognizes CSIR-CLRI as an apex body for leather sector, where the Institute serves as a certifying and accreditation body for leather and leather product exports.

The following are the major education and training models through which skill training at different levels is imparted to the trainees:

- Academic Programs
- Vocational Programs
- Artisanal Skill Programs
- Executive Training Programs
- Project Work and Internship
- International HRD
- CSIR-CLRI a National Monitoring Unit (NMU)

CSIR-CLRI organizes various education and training programs for the leather industry that includes academic programs like B.Tech., M.Tech. and Ph.D. in collaboration with Anna University, Ph.D. in collaboration with Madras University and AcSIR, vocational training programs, executive training programs, project work/internships and also international training programs. Each of these courses/programs are in line with the qualification by levels across the NSQF proposed by the National Skill Development Corporation (NSDC)/(LSSC) in the newly formed Skill Ministry.
Skill-Oriented Design of Course Structure

The diploma and degree programs at CSIR-CLRI utilize the three learning inputs viz. knowledge, comprehension and application. Addition to knowledge is made through lecture courses on theoretical principles with details of construction being achieved through classroom modules, seminars and assignments. Comprehension and understanding of classroom lecture is achieved when the trainees are presented with an opportunity to reinforce the knowledge through experiential learning through practice in the company of an instructor. Project work is designed such that the comprehension of the learner is articulated in its execution. The trainee accomplishes application of knowledge when they take up positions in the industry. The orders of learning strategy i.e. analysis, synthesis and evaluation employed in educational programme, provide the learners opportunities to examine various aspects of fault situations and arrive at the best solution. The largest proportion of time is allocated to the acquisition of knowledge and skills by hands on application and experience. The rigorous and wide-ranging competency-testing programme ensures that the graduates achieve the learning objective of the various courses. The approval methods employed, aim at the evaluation of the quality of comprehension rather than volume of information passed. Technology being dynamic, a mechanism for constant changes in the course materials and content is necessary. Curriculum development is based on up-to date design for quality, methodology through implementation of R&D by enhancement of cross-cooperation with industry and technical institutions. Curriculum is designed with judicious inclusion of topics selected on the basis of user-needs. Periodical review of the curriculum to suit the needs of the industrial society is an integral part of the training approach adopted.

Artisanal Training

Majority of the workforce in leather sector is primarily skill-oriented. And performing shop-floor operations requires appropriate skill training which is well-formulated and structured. Often this training need is overlooked where the artisans are hired and trained on the job. CSIR-CLRI with an aim to bring an organized way of skill acquirement by the artisans has ascertained another avenue, which is, skill development. This will result in increased productivity and effectiveness of the workforce, who are of the greatest proximity to the end product.
CSIR-CLRI has always been there to support the industry whenever it requires a hand either in the form of technology or training. When it comes to training, the industry needs are dynamic and the training programs have to be structured based on the specific training requirements. CSIR-CLRI takes every effort to cater to rare training needs of the industry as well. Apart from the standardized modules, we also offer customized/tailor-made programs for the industry people depending upon their request. The industry officials concerned are invited for interaction, training needs are analyzed formally and the training programme schedule/content is prepared with utmost care to deliver quality output. Many such programs organized on need- basis were one of its kind training whose course contents are designed distinctively.

Some of the atypical modules that were conducted by CSIR-CLRI include - Basics, Preservation and Testing of Leather and Leather Products; Examination of Finished Leathers and Products for Exports, Design and development of Leather Upholstery; Online quality control and inspection in shoe-making; Design and development of open footwear making and so on.

India –A Developed Country in Leather Training

Right from economically developing to developed countries, CSIR-CLRI remains the leather technology super power for all the countries. CSIR-CLRI involved in both ‘teaching a student’ and ‘teaching a teacher’ simultaneously and dealt with prepared minds and elevated their levels for beneficiaries from various countries.

CSIR-CLRI has always exhibited its global leadership as an international trainer organization catering to the training requirements of the world leather sector. The Institute ever since its inception has trained more than 450 candidates from 50 countries all over the world.
Details of the International Training Programs at CSIR-CLRI in past Five Years

<table>
<thead>
<tr>
<th>S. No</th>
<th>Nationality</th>
<th>Training Discipline</th>
<th>Number of Trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kenya</td>
<td>Diploma in leather processing and leather goods</td>
<td>4</td>
</tr>
<tr>
<td>2.</td>
<td>Germany</td>
<td>ETP in Leather and Leather Products</td>
<td>1</td>
</tr>
<tr>
<td>3.</td>
<td>Ethiopia</td>
<td>Training Programme in Leather and Leather Products Manufacture; MSc in Leather Technology and PhD programmes</td>
<td>104</td>
</tr>
<tr>
<td>4.</td>
<td>Finland</td>
<td>Training programme on Leather Processing - Fur/Hair on skin</td>
<td>2</td>
</tr>
<tr>
<td>5.</td>
<td>Netherland</td>
<td>Training programme in leather and leather products manufacture</td>
<td>1</td>
</tr>
<tr>
<td>6.</td>
<td>Vietnam</td>
<td>Training programme in “Cleaner leather processing and tannery waste water treatment technologies”</td>
<td>4</td>
</tr>
<tr>
<td>7.</td>
<td>South Africa</td>
<td>Executive training programme in leather processing</td>
<td>2</td>
</tr>
</tbody>
</table>

Group of candidates from Ethiopian Leather Industry Development Institute (LIDI) Pursuing MSc in Leather Technology at CSIR-CLRI under Twinning Programme between LIDI and CSIR-CLRI

Role of CSIR-CLRI in Skill Development through NSDC

The leather sector is confronting major problem of shortage of skilled manpower, particularly for performing shop floor level operations as these workforces are employed without any professional vocational training but are given only on-site training in the factories concerned. This has led to non-availability of trained manpower and a major stumbling block which is affecting the productivity and price competitiveness of the sector. The Council for Leather Exports has formed the LSSC, an approved body of National Skill Development Council (NSDC) to promote skill development by catalyzing the association of several training institutions at varied levels of education and training. CSIR-CLRI plays a critical role in the development of skilled manpower by developing the trainers through training of trainers programme, offering assistance in the development of National Operating Standards (NOS) providing training in niche areas and also certification to the workforce/potential workforce as an assessor body.
The role of CSIR-CLRI in this endeavor is to play an effective role as the representative apex body in the leather sector with its rich education and training experience facilitating the development of skill solutions for industry players in acquiring and developing the requisite skilled manpower needed to sustain the envisioned growth of the leather and leather products industry with a perspective to emerge as a global leader. CSIR-CLRI will support and facilitate the LSSC in providing skill training/up gradation to 2 million learner and workforce by 2020, which will be 56% of the estimated new workforce of 3.6 million and 33% of the total workforce of 6.1 million by 2020.

**Way Forward**

Research professionals at CSIR-CLRI are in resonance with academy and industry. It enables the institution to remain virtually young. With about 1000 students being engaged in learning and training annually, CSIR-CLRI benefits by the large number of young minds being invested with the leather sector. The institute has also developed networks with other training and educational institutions world-wide. Hence, CSIR-CLRI plays the role of a mother body in the HRD for Leather. CSIR-CLRI, as a living organization with its legendary stature has set an example to be emulated by any other organization, which need not be a R&D organization too, as to how to be “useful and relevant” to the society concerned. In this modern era, its heralded international status has marked newer dimensions. Reaching globally would become a very fundamental requirement of any growing organization when liberalization, privatization and globalization are common.

*New batch of Leather Goods Design (Manual & CAD) programme commenced on 27 June 2017 at SPDC, CSIR-CLRI*

*CAD for Shoes: Executive Development Programme at CSIR-CLRI*
A meeting was held between Leather Sector Skill Council (LSSC) and CSIR-CLRI along with other stakeholders from Central Footwear Training institute (CFTI), National institute of Fashion Technology (NIFT), Gandhigram University and participants from the leather industry on 17th July 2017 at CSIR-CLRI, to discuss about occupational mapping covering 3 segments of Leather Sector (Finished Leather, Footwear and Leather Goods, Garments & Sports Goods) for any uncovered job roles to be updated in occupational mapping. The agenda of the meeting also included devising a structure for the Bachelor of Vocational studies (B.Voc.) degree - 3-years course program under the National Skills Qualification framework (NSQF) format linking educational and skill qualifications.

LSSC and CSIR-CLRI in line with the stakeholders of training institution and the leather industry will be developing job roles for level 5 which caters to the skill requirements at supervisory level in the leather, footwear, leather goods and garments as well as sports goods industries. The candidates at this stage will own responsibility for their respective job roles on shop floor and develop willingness to own responsibility for their peers in the respective area of work as well. The candidates who have successfully completed level 4 will receive a certificate in the specified sector and those who complete levels 4 and 5 will be awarded with a Diploma. Level 6 will cater to the required skills and competencies to serve as Assistant Manager in the respective sectors and those who complete up to level 6 will be awarded with an Advanced Diploma. The candidates who successfully complete all 4 levels (from Level 4 to Level 7) will graduate with a B.Voc. degree and will be thoroughly equipped with the necessary skills and competencies to serve as Manager in the respective sectors.
professional knowledge, technical competencies and skills which will eventually lead them to take responsibility for the production, output of group and overall development of the department. The candidates who have acquired Vocational Certificate / Diploma or Advanced Diploma from UGC recognized Community Colleges / B.Voc institutions or DDU KAUSHAL Kendras in a specific sector with certified skills on a particular job role will be eligible for admission through lateral entry to next higher level on same sector.

Mapping of job roles: The meeting also covered identification of respective job roles level-wise in different sectors - Finished leather, footwear, leather goods and garments and sports goods for incorporating them into the B.Voc. degree offered in the respective sector. The job roles identified level-wise for each sector are as follows:

**Job roles for Finished Leather**

**Level 4** – Operators for Beam House Machines, Drum, Post Tanning Machine, Finishing and Sorting In-charge

**Level 5** – Supervisors for Pre-tanning Machines, Tanning Machines, Post-tanning Machines, Finishing and Machine Maintenance

**Level 6** – Assistant Manager for Pre-tanning Process, Tanning Process, Post-tanning process, Finishing Process and quality control in leather

**Level 7** – Manager for Production and Planning, Product Engineering and Product Testing

**Job roles for Footwear**

**Level 4** – Operators for Cutting (cutting + splitting + skiving), Pre-closing, Closing, Lasting, Bottoming & Finishing and Assistant pattern maker

**Level 5** – Supervisors for Cutting, Closing, Lasting and Finishing, Machine Maintenance, Pattern Maker/CAD/CAM Operator and Product developer/Sample making

**Level 6** – Assistant manager for footwear production, Quality Control Inspector for upper and full shoe, Maintenance Engineer and Designer

**Level 7** – Manager for Production and Planning, Product Engineering and Product Testing

**Job roles for Leather Goods/Garments/Sports Goods**

**Level 4** – Operators for Cutting, Stitching, Skiving, Machine Maintenance, Saddlery and Harness

**Level 5** – Supervisors for Garment Stitching, Leather Goods/Sports Goods

**Level 6** – Assistant Manager for Production, Pattern making of leather garments/leather goods/sports goods

**Level 7** – Manager for Production and Planning, Product Engineering and Product Testing

Holistic development of candidates: The curriculum will encompass the necessary skills required for the respective job roles mapped to the specific sector. At the same time, in order to make the candidates industry-ready, apart from the routine skill component of the curriculum, courses that are supportive to the core trade will also be offered. Courses include display work values, workplace communication, develop business practice, team and organizational dynamics, lead workplace communication, improve business practice and support continuous improvement. The above general subjects have been incorporated at appropriate places in the curriculum for levels 5, 6 and 7.

Integrating ITI to NSQF levels: It was also decided in the meeting to integrate the courses offered under Industrial Training Institute (ITI) with the job roles at various NSQF levels. CSIR-CLRI in association with LSSC will take necessary steps to study the curriculum and integrate the courses offered at ITI to NSQF format. It was also agreed upon that Directorate General of Training (DGT) will be approached to frame overall policies, norms, and standards for vocational training under NSQF format.

Introducing vocational education in schools: The Committee members also discussed about introducing vocational education in schools as specified by NSDC. Vocational subjects can be introduced at school level in line with the NSQF job roles for classes 9th to 12th. It was highlighted by LSSC that the Government of West Bengal has already approached LSSC for inclusion of vocational skills as part of the curriculum for school children. Director, CSIR-CLRI suggested that ten states in the country – Tamil Nadu, Uttar Pradesh, Andhra Pradesh, Telengana, Madhya Pradesh, Maharashtra, Orissa, Karnataka, West Bengal and Haryana could be taken up for this initiative.

Director, CSIR-CLRI has suggested that there should be a well-defined assessment pattern defining minimum criteria right from Certification courses to B.Voc. degree. The candidates who satisfy the minimum criteria of assessment at each level alone will be able to upgrade themselves to the next level. This will ensure the quality of the skilled manpower generated by virtue of skill training in different job roles at various NSQF levels as part of the B.Voc. degree.
Dr B Chandrasekaran, Director, CSIR-CLRI raises the ‘CURTAINS’ on the Spring Summer 2019 season

The next MODEUROP Roundtable & Colour Club Meeting for the Spring Summer 2019 season will be held during 18-19 October 2017 at Fagus-GreCon Greten GmbH & Co., ALFELD, Hanover, GERMANY.

In preparation for this Roundtable, the tendencies in leathers/colours is released.

Calendar of Events: Spring Summer 2019 season

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Curtain Raiser</td>
<td>13 July 2017</td>
</tr>
<tr>
<td>Last date for readying leather/colour proposals</td>
<td>07 September 2017</td>
</tr>
<tr>
<td>Showcase</td>
<td>22 September 2017</td>
</tr>
<tr>
<td>MODEUROP Colour Club Meeting: SS 2019</td>
<td>17-18 October 2017</td>
</tr>
<tr>
<td>New season’s Colour Card</td>
<td>November 2017</td>
</tr>
</tbody>
</table>

The tendencies in Leathers & Colours for the Spring Summer 2019 season is now available exclusively on www.indiadesignclub.com (url sponsored by M/s Bachi Shoes Limited, Ranipet – a subsidiary of TATA International Limited)
The 20th edition of the All China Leather Exhibition (ACLE) will take place at the Shanghai New International Expo Centre in Pudong, Shanghai from 30 August to 1 September 2017. This year, the fair will be preceded on 29 August by the 3rd World Leather Congress (WLC) due to take place in Shanghai with its theme running through it being “The Leather Revolution”.

These two major events being held consecutively are the most important to be organised in China in recent decades and each one should complement the other in terms of both attendance and interest, especially as there are now clear signs that China’s leather industry is performing much better than in recent years. The proximity of the 3rd WLC and ACLE offer a unique opportunity for the global leather sector to come together and participate at both the Congress and trade fair.

Just two months ago, the 33rd edition of APLF culminated on a successful note in Hong Kong reflecting the emergence of the leather sector from the slowdown noted since September 2014 when sky high prices effectively priced leather out of the footwear manufacturing sector as producers turned to cheaper synthetics to maintain profit margins.

On 12 April the China Leather Industry Association (CLIA) published a report on the first two months activity of the sector in China which was, to say the least, very encouraging. Here is the relevant paragraph from that report:

“…………in the first two month of 2017, the industry saw a 5.6% increase in sales revenue, 1.1% decline in exports and a 10% increase in imports, particularly for imports of finished leather, semi-finished leather and raw hides and skins. This increase in imports will benefit the world leather industry.”

Since then China’s economic growth has rebounded back up to 6.9% in Q1 beating expectation and consumer spending continues to increase at a pace of just over 10% - far outstripping any other major economy in the world.

The recent speech by China’s President Xi outlining a major infrastructure Belt & Road project worth billions of dollars to boost trade – also known as the New Silk Road - with its main trading partners in Asia, Africa, Europe and beyond is being taken on board by investors. As President Xi said, “Trade is the important engine of economic development.”

Globally, it is the automotive and furniture upholstery sectors that are maintaining and even boosting demand for leather with China’s automotive sector due to approach 30 million units sold this year for the first time of any country in history.

CSIR-CLRI will be presenting a seminar on “Technology for Total Solution for Chrome tanning: Waterless Chrome Tanning Technology” and Zero Liquid Discharge on 30th August 2017 at the Exhibition Seminar venue.
World Leather Congress - 29 August 2017, Shanghai

Richard Pai, President of the International Council of Tanners (ICT) and of the Taiwanese International Leather Association (TILA) and Su Chaoying, Honorary Chairman of China Leather Industry Association (CLIA) wish to remind everyone that the 3rd World Leather Congress will take place in Shanghai on 29 August 2017 – the day before All China Leather Exhibition (ACLE).

The Congress will be organised by the Co-Hosts – TILA and CLIA – under the broad banner of the ICT with APLF as Founding Sponsor and MPA Style, China Leather and chinaleather.org as principal media partners.

Since the global leather and footwear industries are facing many new and rapidly accelerating changes, challenges and opportunities, the core theme of the 3rd Congress has been set as “The Leather Revolution – How the industry will respond”.

As one of the world’s most important leather producing countries, China’s leather industry has experienced more than 20 years of rapid development. China has now started a new stage of transformation and upgrading its position within the global leather industry. China is now facing many new opportunities, new challenges, and needs to find and establish a new direction for its future development.

The congress will focus on the future changes in the context of the current and future world economic situation and the identification of strategies to explore the leather industry development and improvement, sustainable development, industrial supply chain, social responsibility, and other related issues, in order to help enterprises respond to current and future challenges effectively.

The world's leading industry experts, entrepreneurs, representatives of well-known brands and business representatives of important countries will present their future development plans for the leather industry, consumer market trends and other new ideas.

Following the introductory speeches, the overview section of the congress will include well-known economic and Chinese market research experts who will conduct in-depth analysis and interpretation of China’s economic development and future trends. Also included will be a review of where the global leather industry is today, and a vision for the future.

This will be followed by three further sessions covering the following:

• The key changes in the way that consumers are behaving and with special focus on China;
• The strategies that leather products manufacturers, will take over the next few years and the reasons for them continue to use leather;
• How modern tanneries will respond to the challenges posed by consumers, brands, environmental demands and pressures on raw materials.

The 3rd WLC will be held concurrently with the 8th annual meeting of the China Leather Industry Association and the 11th Annual Leather Industry Forum, with participants from the China Leather Council also attending the World Leather Congress. In addition the 3rd WLC will be held one day before ACLE, where exhibitors and buyers from Europe, the Americas, Asia and Africa will come together in Shanghai to discuss the current and future directions of the leather industry.
Dengue, one of the common diseases caused by the bite of an infected female Aedes aegypti mosquito during the monsoons can be fatal. Once bitten it takes about four to ten days for the symptoms to show. Also known as ‘break bone fever’, these mosquitoes bite during the day (as against malaria, where these parasites attack during the night time). As the common breeding grounds for mosquitoes are manmade containers and stagnant water, implementing few hygiene and sanitation measures might help to prevent the disease.

Here are a few simple and practical tips to keep dengue at bay

- Turn over empty pails and buckets, so that they do not collect excess water. If the container that contains water cannot be emptied, remember to cover it well when not in use.
- Remember to clean out empty flower pots and not to over water potted plants. It is advised to not have any stagnant water around as it acts as breeding ground for the mosquitoes.
- Ensure that tarpaulins, canvas or plastic sheets used in open areas for weather protection are properly drained.
- If you use a cooler, remember to empty out and clean the water tray regularly, even when not in use.
- Keep all drains free from choke.
- Cover all containers that hold water to prevent mosquitoes from accessing the water.
- Apply mosquito repellents on all exposed areas, during the day as well as at night on a regular basis to thereby reducing the risk of being bitten by mosquitoes.
- Install mosquito screens on windows. Make sure your window and door screens do not have any holes. If so, block those areas properly to eliminate mosquitoes.
- Ensure improved water storage;
- Always sleep under a mosquito net (especially small children as they sleep during the day and hence, the chance of mosquito bite is high during this time).
- Ensure proper waste disposal. Always cover your dustbin or trash can when not in use.
- Wear light colored, full-sleeved clothes, long pants, socks and shoes
- If someone at home is ill with dengue, try to not let the mosquitoes bite them or others in the house.

Symptoms

More than half people infected with the virus remain asymptomatic – they do not show any symptoms. The ones who do show signs of the disease may show any or all of the following.

- High fever
- Intense sweating
- Severe Headache
- Muscle and joint pain
Nausea and vomiting
Loss of appetite
Skin rashes in some cases
Swelling in hands and soles of feet
Drop in blood pressure
If situation worsens, there can be a drop in platelet level in blood, blood plasma leakage and shock.

Treatment of dengue fever

Dengue is a virus, so there is no specific treatment or cure. However, a few things which have to be followed during the attack of dengue fever.

- Prevent dehydration - High fever and vomiting can dehydrate the body. Consume plenty of oral liquids (if no vomiting) to replace fluids and minerals.
- Pain killers - Lower the fever and reduce the body pain.
- Hospital care – In severe cases, the patient has to be hospitalized for monitoring vital parameters and complications if any.
River Ganga had been a source of life and spirit for several million Indians. Indian Government had established National Mission for Clean Ganga (NMCG) to ensure effective abatement of pollution and rejuvenation of the river Ganga by adopting a river basin approach to promote inter-sectorial co-ordination for comprehensive planning and management, and to maintain minimum ecological flows in the river Ganga with the aim of ensuring water quality and environmentally sustainable development. Kanpur Leather cluster, particularly Jajmau is situated around the banks of River Ganga, which had been a cause of concern for the discharge of the industrial wastewater into the river in Kanpur.

NMCG on 4th July 2017 had convened a stakeholders meeting to discuss about the pollution reduction measures from Kanpur tanning cluster. CSIR-CLRI, representatives from Kanpur tanneries, representatives from UNIDO and Solidaridad had been part of the stakeholders’ meeting. Shri U.P. Singh, DG NMCG, chaired the meeting. CSIR-CLRI had made a presentation on reducing pollution load through cleaner technologies. Further in the discussion, CSIR-CLRI was asked to carry out mission mode project for implementing in-process measures at tanneries to reduce the pollution load generated from Kanpur cluster. Implementation of cleaner technologies such as waterless chrome tanning technology, dry tanning, enzymatic beam house process, in-process EO treatment and re-use of treated wastewater were discussed. The effect of in-process will be studied both at the level of the individual units and at the level of the Common Effluent Treatment Plant (CETP) levels. CPCB had requested CSIR-CLRI for submission of proposal for Pollution reduction in Kanpur Leather Sector, which is similar to earlier exercise done in 1997 for the Tamil Nadu Leather sector.

Few Excerpts from NGT order pronounced on 13th July 2017:

“The tannery industries should be encouraged to adopt the methodology for processing of hides as per Central Leather Research Institute, Chennai”

“Keeping in view the Directions of the Supreme Court and the judgment of the Allahabad High Court, we Direct that the state of UP along with Association of the Industries, who shall submit the project action plan within Six Weeks from the date of passing of this judgment, failing which it shall take steps for shifting of the tannery industrial complex from Jajmau to the identified site at Banthar (Unnao extension) or any other land identified by the State within that period”
NGT had pronounced an order on 13th July 2017, which is directive to the UP state in preparing an action plan along with association of tanners to address the pollution generated from the tanning cluster.

As solicited by CPCB, a mission mode project proposal for implementation of cleaner in-process technologies for Kanpur Leather Cluster has been submitted by CSIR-CLRI. As a part of this proposal, CSIR-CLRI will prepare a compendium of cleaner and waste minimization technologies for leather sector, which would be published by NMCG. Kanpur is one of the major leather clusters of India. The tanneries are concentrated in three areas in and around Kanpur namely Jajmau, Unnao and Banthar. Implementation of cleaner in-process measures would be undertaken at about 400 tanneries under the Mission mode proposal submitted by CSIR-CLRI.

The cost associated with the treatment of tannery wastewater has been steadily increasing. Therefore, it is challenging to meet the discharge norms adopting end-of-pipe treatment approach only. Unless the in-plant measures and cleaner technologies are followed in order to minimize the pollution load as much as possible at the source, it will be seldom feasible economically to treat the wastewater to the extent of meeting the discharge standards. The National Green Tribunal (NGT) insisted reduction of pollution to the maximum extent possible at the source. In response to the solicitation of the tanners and the direction of the NGT, this proposal of the project of implementing in-plant pollution reduction measures and cleaner technologies in Kanpur tanneries is prepared to ensure economic and environmental sustainability of the cluster.

### Technologies for In-plant pollution reduction and End-of-pipe treatment for Leather Sector

#### SOME OF THE READILY AVAILABLE TECHNOLOGIES FROM CSIR-CLRI

**End-to-End Solutions for Global Leather Sector**

#### WATERLESS CHROME TANNING PROCESS

- A simple process that does not demand additional infrastructure or new chemicals
- There is a significant savings in water, time, energy and thereby processing cost
LEATHER WITH COCKTAIL OF ENZYMES FOR RAPID FIBRE OPENING

- Rapid opening up of fibre matrix to facilitate improved tanning
- Ensuring time saving & pollution abatement

ZERO WASTEWATER DISCHARGE TECHNOLOGY THROUGH ELECTRO-OXIDATION

- Waste streams from different processes are segregated, subjected to Electro-Oxidation and reused suitably
- Waste streams are not discharged and the inorganic contaminants in the waste streams are utilized.

LEATHER MADE OF DRY TANNING PRODUCT

- Reduces number of unit operations
- Time saving to the extent of about 30%

TECHNOLOGY FOR WASTE WATER TREATMENT

- Chemo Autotrophic Activated Carbon Oxidation Technology (CAACO)
- Enzyme Immobilized Carbon Oxidation (ENICO)
- Novel fluidized bed reactor (FICCO)
- Fenton activated carbon catalytic Oxidation (FACCO)
Waste Management Technologies
- Upflow Anaerobic Sludge Blanket (UASB)
- Sulfur Recovery from wastewater and biogas
- Chrome Recovery and Reuse
- Water recovery from wastewater
- Biological Liquefaction and Biomethanation of wastes
- Salt Removal from Inorganic and Organic Mixture
- Advanced oxidation process including Fenton Activated Carbon Catalytic Oxidation, Fluidized Immobilized Cell Carbon Oxidation and Enzyme Immobilized Carbon Oxidation

LIGNIN BASED RETANNING AGENTS
- Effective retanning agent with excellent filling properties and tightness of grain
- This product is free from formaldehyde
- Imparts uniform dyeability, fullness and softness to leather

Liquid and Solid Waste Management
WASTEWATER TREATMENT
- Effluent Treatment Plants (ETPs) for tanneries
- Common Effluent Treatment Plants (CETPs) for tannery clusters
- ETPs for other sectors (Sago, Textile & Pharma)
- Sewage Treatment Plants
- Pretreatment plants

SOLID WASTE MANAGEMENT
- HIGH RATES ANAEROBIC DIGESTION
  Tannery fleshing
  ETP sludge
  Abattoir waste
  Vegetable market waste
  Poultry waste
- SECURE LANDFILL SYSTEMS

OTHER TECHNOLOGIES
- Separation of chromium from chromium shavings
- Co-Digestion of tannery solid waste for biogas generation
- Novel process for preparation of carbon nanotube for industrial applications
- Secure landfill
- Technology on Skin Care Footwear (Therapeutic Footwear)
- Curing-cum-Dehairing process
- Dehairing and fibre opening for complete elimination of lime and sodium sulphide
- Softwares for leather surface imaging system, livestock population and production of Hides/Skins and Online course for leather goods and design and fabrication
**CROSTANEA**

Protein based polymeric syntan

*CROSTAN EA* is free of APEO, does not contain free formaldehyde. It is suitable for the manufacture of all types of leathers, where tightness and fullness are required.

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**DERMATAN RT**

Polypeptide based retanning agent

*DERMATAN RT* is free of APEO, AOX and does not contain free formaldehyde. It is recommended for use in all type of leathers where fullness and roundness are required.

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**NANOTAN NP**

Nano-polymeric retanning agent

*NANOTAN NP* is free of APEO and AOX. It does not contain free formaldehyde. It is recommended for use in all type of leathers where fullness coupled with softness and fine grain is required. The product is much suitable for upper, lining and nubuck leathers.

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**PROTAN KH**

Protein hydrolysate based syntan

*PROTAN KH* is free of APEO, AOX and does not contain free formaldehyde. It is recommended for use in all type of leathers where fullness and tightness are required.
INDIAN LEATHER INDUSTRY - STRIDING WITH CONFIDENCE

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