



No.23 (341)/2020-EI

Date: 01.10.2020

Notification No.03/2020 - Engagement of Project Manager

CSIR – Central Leather Research Institute (CLRI), Chennai a National Laboratory under the aegis of Council of Scientific & Industrial Research (CSIR) and one of the world's premier Institutes engaged in Research & Development in Leather Science & Technology and associated with several National & International programs.

In the absence of a 'Footwear Sizing System' in India, it is imperative that an 'Indian Footwear Sizing system' be developed based on the Foot Dimensions of the Indian feet. This is essential because footwear made on adapted Sizing systems prevalent in other countries, as is being followed in India, can never be comfortable for our feet as the foot characteristics are very different in India as compared to the feet of people from where this sizing system is adapted.

The Bureau of Indian Standards has notified its Footwear Sizing standards under IS 1638 – 1969 standards published in 1969. This requires to be updated since the anatomy and functional requirements of footwear for children, youth and adults (both Men and Women) have changed in the last five decades and it has become necessary to design and develop scientifically correct footwear exclusively for them.

The "comfort" of a shoe and proper foot health is ensured by a proper "last" (3D representation of a foot). To arrive at the "last" parameters it is imperative that a foot measurement survey be carried out and anthropometric investigations of the feet be undertaken. Statistical techniques play a major role in this study as it is impossible to measure each and every person.

Hence, CSIR-CLRI has embarked on a Project to capture the foot data pan India, statistically analyse the data and evolve the 'Footwear Sizing System' for the Indian feet.

SCOPE

To develop the National Footwear Sizing System, it is essential to have statistical data of the proportions of the foot of the local population. This is essential for last development as lasts designed and manufactured in other countries cannot serve their purpose in India, owing to differences in population, climate, wearing conditions and urbanization. It is therefore imperative to conduct a nationwide survey for reliable data on foot proportions. This Project aims to characterize the foot dimensions of the Indian population based on a specially designed foot measurement survey.

The main objective of this foot survey is to collect data on the anthropometric properties of the Indian population's feet. It is expected that the survey:

- Will reveal differences among various ethnic groups and geographic areas - if they exist or prove that no differentiation is needed when a footwear is produced and supplied to any part of the country
- Determine characteristic age and size groups requiring specific attention when footwear is designed for them

- Set basic measurements to be used for marking sizes of footwear
- Establish size ranges providing the required coverage of the population with footwear to be produced for retail
- Produce rules and numerical databases for designing well-fitting shoe lasts with specified length and width groupings, which will ensure comfort to the wearer and prevent foot debilitation

The OUTCOMES are:

- To determine and establish the Indian Footwear Sizing System
- To arrive at the Different Length and Width Groups required for the Indian Population
- To specify the Last Grading parameters: viz. the Length and Width increments required
- To establish equivalence with other sizing systems followed internationally viz. English Sizing System and French Sizing system. The Indian Shoe Sizing system would be unique. A chart would be derived to compare equivalence with other sizing systems. This is very important to enable our Products to be sold in International Markets.

Hence, CSIR-CLRI desires to engage a Project Manager with the following qualifications and deliverables required are also given:

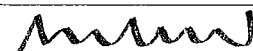
Name of the position & No. of positions	Qualifications	Tenure* / Stipend/ Age
1. Project Manager 01 Position	<p>Essential: Master's Degree in Engineering or Technology from a recognized University/ Institute or equivalent with 20 years of experience in Footwear Science/ Engineering.</p> <p>Desirable: 1. Candidates having Ph.D in Engineering or Technology.</p> <p>2. Experience in Planning and Executing Nationwide Foot Measurement Survey with good knowledge of Foot Anthropometry.</p> <p>3. Carried out a country wide Foot Measurement Survey programme.</p> <p>4. Knowledge on the algorithm to be followed to derive a National Footwear Sizing System.</p> <p>5. A good Working knowledge of Statistical Techniques required to analyse the Foot Data collected and arrive at Foot Last data.</p> <p>6. Well versed in handling state of the art Digital Imaging hardware for Foot Data capture and graphics software for Data extraction from 3D Digital Foot Images captured.</p> <p>7. Expertise in handling 3D Foot Scanners and derive foot measurement data from it and export to various file formats for further analysis.</p>	<p>18 months</p> <p>Rs.1,25,000-2,00,000/- (Consolidated)</p> <p>Minimum age of 45 years</p>

Tenure mentioned above may be extendable. In any case, it is co-terminus with the project or till such time requirement exists whichever is earlier.



Monthly Deliverables:

Month	Deliverables
1.	<ul style="list-style-type: none">• Firm up Synergy Partners (FDDI, NIFT, CFTI, SITRA, RCED's) and onboard them on to the project.• Establish linkages with National Sample Survey Office (NSSO), GOI to determine the sample sizes for measurements pan India• Freeze on the total number of measurements and places of measurements for carrying out the countrywide Foot Measurement Survey.
2.	<ul style="list-style-type: none">• Zonate the country into 4 zones for gathering the regional data.• Determine the various Age and Gender groups to apportion the exact number of measurements in each such group identified.• Identify the Foot Survey Equipment (3D Foot Scanner, Computers, Consumables and Tools) required and spell out the detailed specifications for all such equipment for Tendering.
3.	<ul style="list-style-type: none">• Tender the equipment for procurement.• Form Teams at CSIR-CLRI and at the Synergy Partner's end that will travel to the locations identified for the Survey and conduct the Foot Measurement survey.• Allocate the exact number of Foot Measurements in each Age and Gender group that would be carried out by TEAM and also identify the co-ordinating Agency for each location.• Identify the exact Measurement Locations (Schools, Colleges, Offices, Defence Establishments) and get the requisite permissions, approvals and clearances from them to carry out the survey in their premises.
4.	<ul style="list-style-type: none">• Receive the Equipment ordered.• Evolve the File naming Protocol for unique filenames for each foot measured.• Rigourously Train all the Team Members identified from CSIR-CLRI as well as from the Synergy Partners to handle the Foot Survey Equipment and carry out a very accurate Data Collection.• Validate the Test Data collected from all the Team Members and check for its accuracy and correctness.
5.	<ul style="list-style-type: none">• Field DATA COLLECTION (2 lakh Measurements) at various locations throughout the country to collect the FOOT MEASUREMENT DATA of the total number of feet identified for measurements in the various Age and Gender Groups at all identified locations pan India by the various Teams formed.
6.	<ul style="list-style-type: none">• Field DATA COLLECTION (2 lakh Measurements) at various locations throughout the country to collect the FOOT MEASUREMENT DATA of the total number of feet identified for measurements in the various Age and Gender Groups at all identified locations pan India by the various Teams formed.
7.	<ul style="list-style-type: none">• Field DATA COLLECTION (2 lakh Measurements) at various locations throughout the country to collect the FOOT MEASUREMENT DATA of the total number of feet identified for measurements in the various Age and Gender Groups at all identified locations pan India by the various Teams formed.



Month	Deliverables
8.	<ul style="list-style-type: none"> Field DATA COLLECTION (2 lakh Measurements) at various locations throughout the country to collect the FOOT MEASUREMENT DATA of the total number of feet identified for measurements in the various Age and Gender Groups at all identified locations pan India by the various Teams formed.
9.	<ul style="list-style-type: none"> Field DATA COLLECTION (2 lakh Measurements) at various locations throughout the country to collect the FOOT MEASUREMENT DATA of the total number of feet identified for measurements in the various Age and Gender Groups at all identified locations pan India by the various Teams formed.
10.	<ul style="list-style-type: none"> Field DATA COLLECTION (2 lakh Measurements) at various locations throughout the country to collect the FOOT MEASUREMENT DATA of the total number of feet identified for measurements in the various Age and Gender Groups at all identified locations pan India by the various Teams formed.
11.	<ul style="list-style-type: none"> Collection of all the FOOT MEASUREMENT DATA (2 lakh Measurements) from all the TEAMS who carried out the Survey throughout the Country. Merging of all Data Collected into a Master Data Base. Checking databases of collected foot measurements. Rechecking positions and values of randomly selected foot measurements and comparing with those exported by the 3D Scanner control program for establishing correction factors.
12.	<ul style="list-style-type: none"> Preliminary Statistical Analysis to find out the Means and Deviations of the important foot parameters. Preparation of database processing programs. Preparation, testing and implementation of a Windows based program for processing databases of collected foot measurements. Computation of mathematical statistical parameters and characteristics.
13.	<ul style="list-style-type: none"> Detailed Statistical analysis of collected data Applying mathematical statistical methods for analyzing collected foot measurements Statistical Analysis of related anthropometric data (determination of averages, standard deviations, medians, ranges;
14.	<ul style="list-style-type: none"> Application of statistical tests for distinguishing subsets of databases. Finding suitable Distribution models for dispersed Data Sets. Correlation and regression analysis for establishing interdependences among measurements.
15.	<ul style="list-style-type: none"> Recommendations for Footwear size ranges. Establishing of Footwear size groups. Determination of size ranges and width group variants together with their respective size demand coverage.
16.	<ul style="list-style-type: none"> Recommendations for model shoe last dimensions. Compilation of measurements for size-groups' middle sized shoe lasts. Determination of girth/width increments (shoe size grading parameters) for the established size groups and width tables.



Month	Deliverables
17.	<ul style="list-style-type: none"> Derive the Shoe Last Bottom patterns as well as specify the LAST parameters to manufacture the LASTS for the different size and width groups that get defined by our survey data analysis. Derive equivalence of recommended sizing system with other International sizing systems
18.	<ul style="list-style-type: none"> Compilation of the final document describing the Data Analysis Methodology and procedure, setting out the recommendations for the elaborated shoe size system and FINALLY RECOMMENDING the INDIAN NATIONAL FOOTWEAR SIZING SYSTEM.

How to apply: The application for the post with detailed bio-data highlighting scientific and translational contributions in details along with list of publications/ patents etc. may be sent through email on email ID recruit@clri.res.in or by post to Director, CSIR-Central Leather Research Institute, Sardar Patel Road, Adyar, Chennai 600 020. The last date of the receipt of applications is **20th October, 2020**.

FORMAT FOR BIO-DATA

1. Name:
2. Date of Birth:
3. Current Position and Address:
4. Email/ Mobile No.:
5. Educational Qualifications:

Sl. No.	Degree/ Certificate	Year of Passing	University/ Institute	Subjects

6. Academic/ Research Experience/ Employment:

Sl. No.	From	To	Name of Organization	Position Held

7. Areas of Specialization:
8. Honors/ Awards/ Recognitions received:
9. Professional Affiliations:
10. *(a) List of Research Publications including popular articles, if any;
 (b) List of best professional outputs/ outcomes in last 10 years, relevant to present field of specialization;
 (c) Highlights of contributions to the area of specialization.
11. *Number of Books authored/ edited.
12. *(a) Number of Patents/ Copy rights/ Trade Mark/ IPR granted/ applied for & highlights of translational research contributions.
 (b) Technologies developed, Licensed and/ or commercialized with details.



13. Dissertations supervised:

(a) Ph.D

(b) Post-Graduation

14. 1-2 page summary of "Footwear Sizing System in India".

15. List of 2-3 professional referees of high repute with whom candidate has interacted in the past.

I hereby declare that all the information mentioned above is true to the best of my knowledge.

Signature of the Applicant

Date:

Place:

* Details may be enclosed separately

Candidates fulfilling the above mentioned qualification, age *etc.*, will be intimated (through email) to attend Interview either **in Person or Virtual Mode** on **23rd October, 2020 at CLRI from 09:00 AM** onwards.

Terms & Conditions:

1. Incomplete applications (i.e. without photograph, signature and applicable certificates etc.) will not be entertained and will be summarily rejected.
2. Candidates found suitable for selection will be empaneled (valid for one year) in addition to the positions required. Empaneled candidates may be selected for future project requirements.
3. The date of determining the qualification and age shall be **20-10-2020**.
4. **Tenure mentioned above may be extendable. In any case it is co-terminus with the project or till such time requirement exists whichever is earlier.**


(M ARUN MANIKANDA BHARATHI)
SECTION OFFICER (EI)