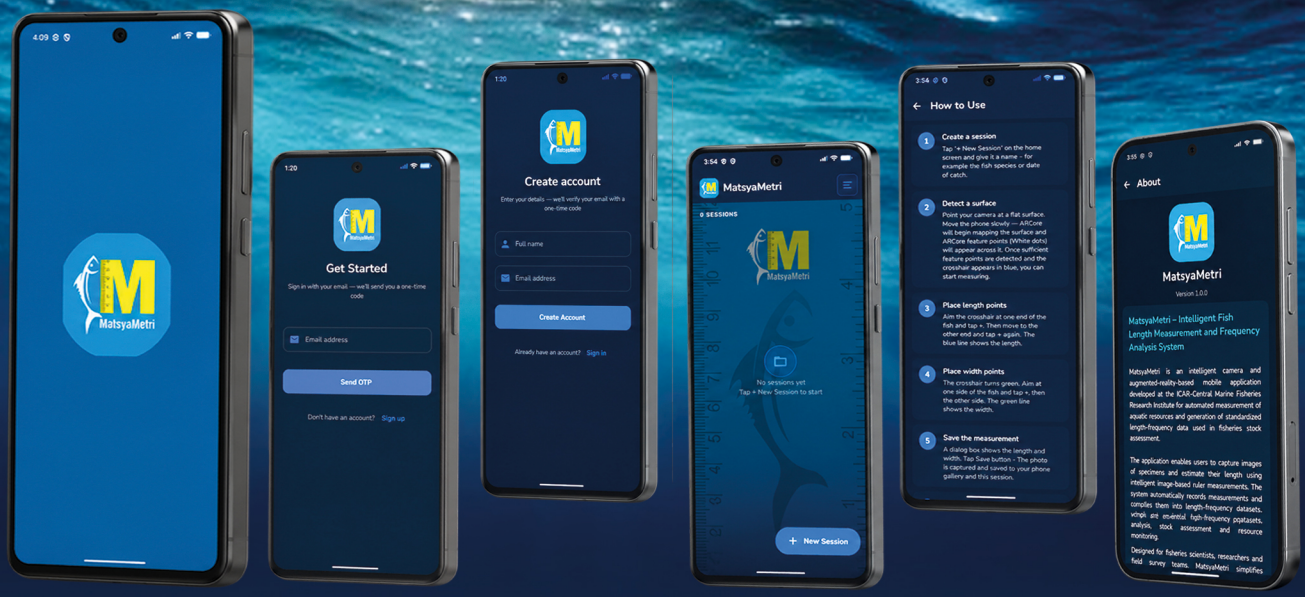
CMFRI Pamphlet Series No.183/2026

MatsyaMetri@CMFRI

Intelligent Fish Length Measurement and Frequency Analysis System

Measure | Record | Analyze | Sustain



MatsyaMetri is an intelligent camera- and augmented-reality–based mobile application developed at the ICAR-Central Marine Fisheries Research Institute under the project for automated measurement of aquatic resources and generation of standardized length–frequency data used in fisheries stock assessment.The application enables users to capture images of specimens and estimate their length using intelligent image-based ruler measurements.

The system automatically records measurements and compiles them into length–frequency datasets, which are essential for fisheries population analysis, stock assessment, and resource monitoring. Designed for fisheries scientists, researchers, and field survey teams, MatsyaMetri simplifies biological data collection and supports data-driven fisheries management

Key Features

- Intelligent camera-based length measurement using Augmented Reality
- Automated recording of length observations during field surveys
- Instant generation of length–frequency tablesfor stock assessment
- Session-based sampling for recording multiple individuals of the same species
- Supports multiple aquatic resources including Finfish, crustaceans, and molluscs
- Secure data storage and export for scientific analysis
- User-friendly interface suitable for landing centres and field surveys

How to Use MatsyaMetri

1. Register

Register using your email ID. Verify your account through the OTP (One-Time Password) sent to your email.

2. Login

Login using your registered credentialsto access the application dashboard.

3. Create a Session

Tap "+ New Session" on the home screen and give it a name – for example the fish species or date of catch. Multiple individuals of the same resource can be measured under the same session. Once sampling is completed, create a new session for another resource.

4. Capture Image

Point your camera at a flat surface. Move the phone slowly – ARCore will begin mapping the surface and ARCore feature points (white dots) will appear across it. Once sufficient feature points are detected and the crosshair appears in blue, you can start measuring.

5. Measure Length and Width

Aim the crosshair at one end of the fish and tap +. Move to the other end and tap + again. The blue line shows the fish length. When the crosshair turns green, tap one side of the fish and then the other side. The green line shows the fish width.

6. Save Record

A dialog box shows the length and width. Tap Save button – the photo is captured and saved to your phone gallery and this session.

7. Generate Length–Frequency Data

Tap the menu icon in the AR screen to see the summary table. Click Length Frequency Analysis button. All measurements are automatically compiled to generate length–frequency distributions using appropriate class intervals.

8. Export Data

Use the download icon to export measurements and Length Frequency Analysis as a CSV file.

Acknowledgement

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MatsyaMetri

GET IT ON Google Play

Note: MatsyaMetri is compatible with ARCore-supported Android devices only

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