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# REVAMPING THE ONLINE VISITOR MANAGEMENT SYSTEM OF TECHNOPARK

#### I. <u>Background:</u>

An online Visitor Management System was introduced in 2019 to streamline visitor entry passes, walk-in entry passes for interview candidates, VIP passes, and instant entry passes (both online and printed). Currently, approximately 1,000+ Instant Passes, 300+ Visitor Passes, 150+ Walk-In Passes, and 25+ VIP Passes are issued daily through this system. To modernize the system with the latest technology while ensuring strong security and data protection compliance, it has been decided to revamp the Visitor Management System.

# II. Existing Online Visitor Management System

An online portal and a mobile application are made available for Visitor Management at Techno Park Campuses. Through the system, companies can manage their visitors directly by issuing entry passes. Visitors can directly request an entry pass to companies through the mobile App/ Web portal. After receiving the visitor's request, the company can approve the request online, post which an URL will be sent to the visitor's mobile number and e-mail id for generating their online entry pass. Visitors have to generate their pass from the URL and show the softcopy at the entrance gate.

Technopark is a multi-locational campus. The locations are listed below.

- Technopark Phase-I, Trivandrum
- Technopark Phase-III, Trivandrum
- Technopark Phase-IV (Technocity), Trivandrum
- Technopark Phase-V (Kollam), Kundara, Kollam

#### **URLs**

Link to the Visitor Management System web portal and mobile apps are made available on the home page of Technopark's website for easy access. Detailed user manuals for Companies and Visitors are also available on the website.

Web Portal - <a href="https://vms.technopark.org">https://vms.technopark.org</a>

**Mobile App:** Technopark Visitor

#### Android:

https://play.google.com/store/apps/details?id=com.vms.technoparktvm &pli=1

iOS: <a href="https://apps.apple.com/in/app/technopark-visitor/id6443795749">https://apps.apple.com/in/app/technopark-visitor/id6443795749</a>

**Hosting:** The web application is currently being hosted from the State Data Centre located at Thejaswini Building, Techno Park Campus, and Trivandrum.

The Mobile Apps are hosted from the App store and Play Store.

#### **Types of Passes**

Currently, the types of passes issued through the system are Visitor Pass, Walk-In Interview Pass, VIP Pass, Insta Pass, and One Time Pass.

#### 1) <u>Visitors pass.</u>

A Visitor Pass in Technopark is an official entry permit issued to individuals visiting the companies for business or official purposes. It includes essential details such as the visitor's name, photograph, pass number, date and time of visit, the company being visited, the IT building location, name and designation of the host, etc.

The Visitor Pass helps ensure security by allowing only authorized guests inside the premises. Visitors must present their **original photo ID card** at the entry gates for verification before being granted access. This system helps maintain a secure and organized environment within Technopark.

- Visitors shall have the option to search for a company and select the campus from the dropdown list, where the company is located. (If a company is located in more than one campus, the campuses shall be listed accordingly.)
- Auto-Suggest Feature (Autocomplete): As visitors start typing the company name, the system provides real-time suggestions for faster selection.
- **Multi-Campus Listing:** If a company is present in multiple campuses, all relevant campuses are listed in the dropdown, allowing users to

choose the desired location (All the **IT building(s)** names will be included in the pass, as some companies are located in multiple IT buildings.)

Once the request is submitted, a notification shall be sent to the company via email and SMS.

The notification for an **approved** or **rescheduled** pass shall contain a **URL** to generate the entry pass. The notification shall clearly mention that the URL will be active only on the date of the visit.

#### **Visitor Pass Request Process**

- Login to VMS (Web portal or Mobile App)
- Choose the company
- Select campus
- Name of the Person to Meet
- Designation of the Person to Meet
- Purpose of the Visit (Sales, Official, Personal, Interview, Others)
- Date and Time of the Visit

#### The following details are available in the Visitor Pass:

- Visitor Pass Number
- Techno park's Logo
- Name of the Visitor
- Type of Pass
- Photo of the Visitor
- Visitor's Photo ID Card Type and Number
- Date of Visit
- Time of Visit
- Name of the Company to Visit
- Name of the Person to meet
- Designation of the person to meet.
- Name of the IT Building(s) where the company is located
- Campus Location
- Bar code

(Screenshots of the visitor pass are provided in **Annexure-1**.)

#### 2) Walk-in interview entry pass:

Once the walk-in interview advertisements are published on the Technopark's website <u>Job portal</u> by the companies, the details will be communicated to the Visitor Management System via an API. Accordingly, these details will be available on the mobile app and web portal of the Visitor Management System. Visitors have the option to instantly request a walk-in interview pass by selecting a date from the interview schedule. Once the pass request is initiated, a URL will be immediately sent to the visitor's mobile number or email ID for generating their walk-in entry pass. Approval of the visitor pass by companies is not required. An option for rescheduling the pass until the day before the interview is also available.

#### **Walk-In Interview Pass Request Process**

Visitors can generate their entry pass for the walk-in interview on the scheduled date. Since no company approval mechanism is needed, the **original photo**ID card and academic certificates of the candidate will be verified at the main gate, which will be mentioned in the SMS.

- The pass should be delivered to visitors via email and SMS.
- The pass should be valid only on the date of the interview.
- If a visitor applies for the pass again, the system shows the status as already applied.
- Company approval is not required for the walk-in interview pass.
- The generated pass shall only be valid on the date of entry requested.

#### The following details are available in the Walk-In Interview Pass:

- Visitor Pass Number
- Techno park's Logo
- Name of the Candidate
- Type of Pass
- Photo of the Candidate
- Date of Walk-In Interview
- Time of Interview (As per Ad)
- Name of the Company to Visit
- Name of the IT Building(s) where the company is located
- Bar code

(Screenshots of the Walk-In Interview Pass are provided in **Annexure-1**.)

#### 3) <u>VIP entry pass:</u>

The VIP entry pass is also being issued through the online Visitor Management System. For issuing a VIP entry pass to the VIP guests, companies need to send an email to the id vippass@technopark.org with the details such as the Guest's Name, email id or contact number, Name and Designation of the Person to meet, and date of visit. Once the request is received, an online VIP pass will be issued through the Visitor Management System by Park Centre. The details of the pass and URL for generating the pass will be sent from the system to the email id provided by companies. Intimation of the VIP visit will also be sent to the Security Officers, Assignment Inspectors, entrance Gates etc. via email, for the smooth entry of the VIP to the campus.

#### The following details are available in the VIP Pass:

- Techno park's Logo
- Name of the Visitor
- Type of Pass
- Date of Visit
- Time of Visit
- Name of the Company to Visit
- Name of the IT Building(s) where the company is located
- Name of the Person to meet.
- Designation of the person to meet.
- Campus Location
- Bar code
- Validity

(Screenshots of the VIP pass are provided in **Annexure-1**.)

#### 4) Instant pass (e-Pass and printed Pass)

An instant entry pass (e-Pass and printed pass) for laborers, vendors, material collection, service support, workers, and interview candidates (those who have not applied in VMS), etc., is issued from the Entrance Gates of Technopark Phase-I, Phase-III, Phase-IV, and Phase-V (Kollam) Campuses.

Details such as name, photo, purpose, company name, building name, date, time of visit, validity (in hours), etc. are collected and included in the pass. A webcam is also available at all these locations for taking photos of visitors. By default, the instant pass validity is 2 hours. The system has an option to extend the validity to 4hr, 6hr and 8 hers when issuing the pass.

E-passes are issued to the mobile number and email ID of the visitors, and they can use their smartphones to show their entry pass at the Entrance Gates or IT Buildings entrances. Options to print passes are also available for workers who do not have access to a smartphone.

#### The following details are available in the Instant Pass:

- Visitor Pass Number
- Techno park's Logo
- Name of the Visitor
- Type of Pass
- Purpose of Visit
- Photo of the Visitor
- Date of Visit
- Time of Visit
- Name of the Company to Visit
- Name of the person to meet
- Designation of the person to meet
- Name of the IT Building(s) where the company is located
- Campus Location
- Bar code
- Validity

(Screenshots of the instant pass are provided in **Annexure-1**.)

#### 5) One Time Pass

An option is available on the web portal for generating a One-Time Pass for visitors who do not frequently visit the campus. To generate a One-Time Pass, visitors do not need to complete profile creation.

Visitors will be required to enter their name, mobile number, email ID, company to visit, person to meet, reason for the visit, and the date and time of the visit. They must also upload a photo, either from their gallery or by capturing one using their device's camera. The mobile number will be verified through an OTP verification system.

Once the request is submitted, a notification will be sent to the respective company. If the pass is approved, a URL will be sent to the visitor's mobile number and email ID to generate their entry pass. Additionally, the visitor will receive a notification stating that a valid original photo ID card will be required for verification at the entrance gates.

#### The following details are available in the One Time Pass:

- Visitor Pass Number
- Techno park's Logo
- Name of the Visitor
- Type of Pass
- Photo of the Visitor
- Visitor's Photo ID Card Type and Number
- Date of Visit
- Time of Visit
- Name of the Company to Visit
- Name of the Person to meet
- Designation of the person to meet.
- Name of the IT Building(s) where the company is located
- Campus Location
- Bar code

(Screenshots of the visitor pass are provided in **Annexure-1**.)

The following notification will be displayed when a visitor clicks on the One-Time Pass option on the web portal:

"The One-Time Pass request option is available only once per mobile number. Visitors are advised to download the mobile app 'Technopark Visitor' and request an entry pass from the app or create a web account using the Sign In/Register option available at <a href="https://vms.technopark.org/">https://vms.technopark.org/</a> to request an entry pass."

(Screenshots of the One-Time Pass are provided in **Annexure-1**.)

# III. <u>Modules/ Logins</u>

#### Web Portal (https://vms.technopark.org)

The web application has logins for the Back Office Administration Portal, Member Companies, Visitors, etc.

#### 1) Back Office Administrative Portal

This module is available to the ParkCentre office for various settings and configurations, user management, company administration, guest/visitor management, report generation, manual API syncing, etc.

The Super Administrator has access to all these settings.

- **Settings:** Includes options for adding or modifying campus locations, visitor types, purposes of visits, etc.
- **User Management:** Allows creating or modifying roles, granting campus wise access, managing users, etc.

Campus-wise role-based access for the management are listed below.

- o Co-Admin
- Visitor Pass
- Instant Pass Login
- VIP Pass Login
- o Report Admin
- Company Management
- Company User Management
- Company Administration: Provides options to manage companies, including activation/deactivation, adding/removing/modifying company users, setting user account limits for each company, managing VIP guests, handling walk-in interview details with user counts, and issuing Insta Passes for companies.
- **Guest/Visitor Management:** Allows adding visitors or passes, viewing and modifying issued passes, and searching for visitors or passes using various filters or fields.
- Reports and Search: Enables generating reports such as consolidated reports, VIP/non-VIP pass reports, walk-in interview reports, visitor reports, Insta Pass reports, and details of active/deactivated companies. Reports can be filtered by date (day, week, month, year), name, mobile number, email ID, company name, photo ID card number, vehicle number, Visitor Pass ID, etc. An option is available to export all data to PDF and Excel files.

#### Sync Company and Walk-In Interview

Currently, two APIs are used to sync company data and walk-in interview data from Technopark's website A-Z Listing and Job Portal. Auto-sync is performed daily at 12:00 AM and 1:30 PM to update data from the Technopark website. Additionally, a manual sync option is available for instant updates.

(Screenshots of the Back Office Administrative Portal are provided in **Annexure-1**.)

#### 2) Member Company Administrative Portal

Once a company detail added to the A-Z listing on Technopark's website. The same company details will be added to VMS through an API integration. After registering the details, Technopark will send an email to the company, mentioning the VMS login URL and instructions to Sign-Up on the VMS using the registered email ID that was used as the company's contact email in the A-Z listing. An OTP will be sent to the registered email ID, and after validation, companies can create the account. (Park Centre has an option to change this ID if the company requests to use separate email IDs for company registration on the Technopark website and VMS login.)

Details available in the company modules are given below:

- A dashboard is available on the homepage to view details such as passes issued and approved monthly.
- Approve or reschedule visitor passes (option to Listing visitors to the company are also available)
- Issue new visitor passes
- Each company should be permitted to use one Master Account (account ID will be provided by Park Centre) and two or more User Accounts.
  - User accounts will be created by the master account.
  - A Sign-Up option should be available using the provided email ID.
  - A Reset Password option should also be made available.
- Approving one-time pass requests
- Generate reports
- View issued visitor passes (option to Viewing and rescheduling approved passes, reissuing a pass, cancelling pass)
- An option is available to view the number of interview candidates and check their details based on the dates for each walk-in interview published.
- Updating the user profile and managing (add/ edit) company user accounts.
- The company user manual also available in company login

An option to reset the password is also available if the user forgets it.

The following notification will be shown each time a company logs in:

"Visitor Management System is exclusively for Company specified visitors excluding vendors/ delivery agents for food, courier, mineral water, cooking gas cylinder, scrap/waste collection, pest control etc. Companies are requested not

to process/ approve pass for these vendors/ delivery agents through the Visitor Management System."

(Screenshots of the Member Company Administrative Portal are provided in **Annexure-1**.)

#### 3) Public Access Portal:

This is a web module used by visitors to create a profile, apply for a visitor pass or walk-in entry pass, modify a pass, view approved pass details, cancel requested/ issued pass, edit their profile, etc.

(Screenshots of the public Access Portal are provided in **Annexure-1**.)

#### Mobile Application (Android and IOS) - "Technopark Visitor"

The mobile app is currently available only for visitors/candidates to apply for an entry pass or a walk-in entry pass. Visitors need to complete profile creation to use the application. Options to view and modify passes (both requested and approved), view today's pass, and update their profile are also available.

For walk-in interviews, an option to select the date of attendance is available (refer to the features of walk-in mentioned above under "Walk-in Interview Entry Pass").

(Screenshots of the Mobile App are provided in **Annexure-1**.)

#### IV. APIs

APIs are made available to synchronize the Company details from the Technopark's Website (A-Z company listing) and Walk-In Interviews published by the companies on the job portal of Technopark.

#### 1. API- Company Listing

Company listing API are being used to synchronize the Company details from the Technopark's Website (A-Z company listing).

The details available in the API are listed below.

- Campus Location
- Company Name
- Name of the IT Building

- Company Address
- Name of the contact person
- Designation of the contact person
- Email
- Company ID
- Landline

Auto-sync is performed every day at **12:00 AM and 1:30 PM**. If required, the admin can manually sync data for an instant update.

#### 2. API- Walk-In Interview

Walk-In interview API are being used to synchronize the Walk-In advertisement details published on the <u>Job portal</u> on the Technopark's website.

The details available in the API are listed below.

- Company ID
- Campus Location
- Building Name
- Walk-In Position
- Walk-In ID
- Walk-In created Date.
- Walk-In Date From
- Walk-In Date To
- Walk-In Time From
- Walk-In Time To
- Walk-In data center id

Auto-sync is performed every day at **12:00 AM and 1:30 PM**. If required, the admin can manually sync data for an instant update.

# V. Scope of Work

The scope of the work is listed below.

#### 1. Revamp of Existing Visitor Management System (VMS)

 Revamp the existing Visitor Management System (Web and Mobile Applications) of Technopark using the latest technology with enhanced UX and UI, ensuring strong security and compliance with data protection standards. URL: https://vms.technopark.org

Mobile App (Android and iOS): Technopark Visitor
 Logins are to be created for Visitors, Companies, and Security Officers.

The login for security officers will be used to validate entry passes by scanning the QR code or barcode available on the pass.

#### 2. Security Auditing

- Conduct a comprehensive security audit of the entire Visitor management System (web and mobile applications including all modules, logins, API's, etc.) through a CERT-IN empaneled agency.
- A "Safe to Host" certificate shall be provided upon successful completion of the audit.

#### 3. Annual Maintenance

• Provide annual maintenance services for two years after the 12-month free maintenance support period.

(The implementation agencies are requested to propose industry best practices, innovative methodologies, and technical recommendations relevant to the scope of work. These suggestions should enhance system efficiency, security, scalability, and long-term maintainability. Agencies may also highlight proven strategies from similar implementations to ensure optimal project execution.)

#### **Revamp of Existing Visitor Management System (VMS)**

- 1. All existing features available in the web portal and mobile application shall be incorporated into the revamped version.
- 2. Improve the **UI &UX** and Ensure Responsiveness.
  - Redesign the user interface (UI) to provide a modern, intuitive, and userfriendly experience.
  - Enhance the user experience (UX) by streamlining navigation, minimizing steps for pass requests, and optimizing form inputs.
  - Ensure a fully responsive design that adapts seamlessly across desktops, tablets, and mobile devices.

- Implement accessibility features to improve usability for all users, including those with disabilities.
- o Optimize page loading speed and performance to enhance efficiency.
- Maintain consistency in design elements, colour schemes, and typography for a professional appearance.
- 3. **WhatsApp notifications** shall be implemented for OTPs, Pass Requests, Pass URLs, etc. in addition to the existing email and SMS notifications.
- 4. **Two-factor authentication** (2FA) for enhanced security for all the logins.

  2FA for the mobile application can also be integrated, which will be applicable once every two weeks (The agency is requested to provide recommendations on this).
- 5. Implement an Option for **Blacklisting Visitors**: A feature must be implemented for Admin and Super Admin users to block/blacklist visitors using their name, email, phone number, ID card number, or a combination of these attributes. Once a visitor is blacklisted, they will be denied entry to the premises and flagged in the system for future reference.
- 6. Provide a "Dashboard" in the back-office admin portal.

A dashboard shall display the following details:

- Number of companies on boarded in the system
- Number of Visitor passes issued for today
- Number of VIP passes issued for today
- Number of walk-in passes issued for today
- Number of Instant passes issued for today.
- Number of One-Time passes issued for today.
- Total number of Visitors for today, etc.
- Upcoming visits
- Visitor history
- Visitor status/ analytics
- Other relevant metrics based on the user's login and assigned roles.

(The existing dashboard available in the member company logins shall be retained solely for providing information about the respective companies.)

#### 7. A **Human Detection Algorithm** to be implemented.

In the current system, users can upload any image without restriction, which poses significant security risks, including the possibility of inappropriate content, automated bot-generated uploads, or identity fraud. This lack of validation can lead to misuse, compromising the integrity and security of the platform.

Hence, a Human Detection Algorithm shall be implemented to automatically verify whether the uploaded or captured visitor photo contains a human subject before accepting it. This approach will enhance security and can be particularly beneficial in authentication systems, user verification processes, and platforms requiring identity validation.

8. **Aadhaar authentication** shall be performed directly from the UIDAI database for user profile registrations in the VMS system. (The agency is requested to explore viable options and provide recommendations.)

Currently, users are required to upload their photo ID card along with other details for profile registration. In the new system, users will only need to provide the ID card number of the photo ID. The original photo ID card of the visitor will be verified upon entry.

Hence, **Aadhaar authentication** shall be performed directly from the UIDAI database for user profile registrations in the VMS system.

- UIDAI provides secure access to Aadhaar authentication and e-KYC (Know Your Customer) services, which allow the validation of Aadhaar numbers and retrieval of limited user details after proper authorization.
- Details such as Name, Date of Birth (DOB), Gender, Address, and Mobile
   Number can be retrieved from UIDAI's database.
- The implementing agency must ensure that data handling and privacy compliance adhere to UIDAI guidelines and the Aadhaar Act, 2016 regarding data storage and handling.

- The implementation agency shall coordinate for the above service from UIDAI.
- 9. The existing barcode on the pass shall be replaced with a **QR code** for greater flexibility, security, and data capacity.
- 10. Provision for creating Co-Admin accounts and managing modules such as VIP Pass, Insta Pass, etc., with role-based access.
- 11. Feature for "Emergency and Real time Notification": A feature shall be developed for sending emergency notifications (SMS, WhatsApp and Email) to visitors in case of an emergency.
- 12. An option to **Check-In** may be provided in the app to notify the company about the visitor's arrival.
- 13. **Visitor Feedback Form:** An option for visitors to provide feedback should be included. The feedback received shall be accessible only through the Super Admin login.
- 14. Add the following features for **Visitor logins**,
  - o Option to rescheduling and cancelling the Walk-In entry pass.
  - o Option for updating the profile (currently available only in web portal).
  - o Option to request for cancellation or rescheduling of an approved pass.
- 15. **Requesting VIP pass** from company login module.
  - An option needs to be implemented for companies to submit VIP pass requests from their login. Once the request is approved by Park Centre, the pass should be visible in the Member Company Admin Portal.
  - An option should also be included to view and share the VIP pass via email,
     SMS, and WhatsApp, as well as to request cancellation or rescheduling of the approved pass from the company login.
  - An option to cancel or reschedule the pass shall be implemented for rolebased access users managing VIP Passes.

- 16. New logins in the Mobile Applications: In the current system, companies do not have a login in the mobile applications. Hence, New login in the mobile application shall be made available for companies and Security Officers as below.
  - Companies with features such as issue pass, approve pass, request VIP pass, View VIP Pass (with share option), request for reschedule/ cancel pass, etc.
  - Security Officers with the ability to verify passes using QR code scanning.
    - **QR Code Reader:** It is planned to distribute smartphones to security officers, restricting the phone for the "**Technopark Visitor**" app for the purpose of validating Visitor Passes, Walk-In Entry Passes, VIP pass, Instant Passes, and One Time Passes by reading the QR code available on the pass. *(Agency may recommend suggestions.)*
- 17. One Time Pass- A One-Time Pass shall be issued to a mobile number only once within 90 days. The admin shall have the option to set the duration for a One-Time Pass per mobile number.
- 18.**Search**: In addition to the existing search parameters for visitors, such as name, mobile number, email ID, ID card number, etc. the following search options shall be implemented:
  - An option to search for a visitor using an uploaded photo.
  - An option to search for a visitor using a vehicle number.
- 19. **Reports:** Option to generate the following new reports shall be provided.
  - Frequent visitors and peak hour's analysis.
  - Details of blacklisted visitors.
  - List of visitors currently on-site for emergency or safety purposes.
- 20.**Scalability:** The system shall be built on a scalable architecture, allowing for increased user load and future integration with external platforms without major rework.

#### 21. Security and Data Protection Requirements.

To ensure the privacy, security, and integrity of visitor data collected through the Visitor Management System (VMS) at Technopark, the selected agency must adhere to the following security and compliance measures:

#### 21.1 **Data Minimization and Collection Standards**

- The system shall not collect or store full ID card images (such as Aadhaar, Voter ID, or Driving License). Instead, only the ID number and type shall be collected for verification purposes.
- Personal data collection shall be limited to essential fields, such as name, contact number, and purpose of visit, etc. (Implementation agency may suggest on this)
- Photo collection shall be allowed only for verification purposes and must be automatically deleted after a predefined retention period.
- No sensitive personal information (SPI), such as full ID scans or biometric data, shall be stored beyond the required retention period.
- A data deletion policy must be in place to ensure that outdated records are securely erased without manual intervention. This policy shall be created by the implementation agency, shared with Technopark, and made available on the portal for easy access by the Super Admin.

#### 21.2 **Data Encryption and Secure Storage**

- All personally identifiable information (PII) shall be encrypted at rest and in transit using industry-standard encryption protocols (AES-256, TLS 1.2/1.3, etc).
- ID numbers shall be hashed or tokenized before storage to prevent unauthorized access.
- The database storing visitor information shall be hardened against cyber threats, with necessary security configurations applied.

#### 21.3 Access Control & Authentication

- The system must implement role-based access control (RBAC), ensuring that only authorized personnel can access visitor records or any other information available in the system.
- Multi-factor authentication (MFA) must be enabled for administrative users managing visitor data, company data, etc.
- The system must maintain detailed audit logs, capturing every instance of data access, modifications, deletions, etc.
- The system should provide real-time monitoring and generate alerts for any unauthorized data access attempts.

#### 21.4 Data Retention and Automatic Deletion

- Visitor data shall be retained for a maximum of **90 days**, after which it must be automatically **purged** unless legally mandated otherwise.
- An auto-purge mechanism must be implemented to delete old visitor records after the retention period.
- Authorized administrators may override automatic data deletion with Super Admin approval and a valid justification, extending retention for up to **six months**. All overrides are logged for compliance, with access restricted to authorized personnel. After the extension, data must be deleted unless reapproved.
- System shall have an option to generate report for the automatically purged data.

# (Implementation agencies are requested to suggest best practices on the above)

#### 21.5 **Visitor Rights & Data Portability**

- Visitors should have an option to download a copy of their stored data in a machine-readable format.
- A data correction mechanism should be provided for visitors to update or rectify incorrect information.
- An option shall be provided for users/ visitors to request corrections or deletion of their personal data.

#### 21.6 **API Security and Secure Communication**

- All API calls between the web and mobile applications shall be secured using OAuth 2.1, JWT authentication, or any other advanced authentication mechanism.
- The system shall include input validation and sanitization to prevent SQL injection, XSS, and other common security threats.
- Rate limiting and bot protection must be implemented to prevent automated attacks.

#### 21.7 **Compliance with Data Protection Regulations**

The system shall be designed and developed in compliance with the following key data security and regulatory requirements, including their subsequent amendments if any:

 Information Technology (IT) Act, 2000: The system shall adhere to the security and data protection guidelines outlined in the IT Act, 2000, ensuring secure transmission and storage of sensitive information.

- Aadhaar Act, 2016: If Aadhaar authentication is used, the system must comply with Aadhaar Act guidelines and subsequent amendments. Aadhaar numbers and related details shall be masked and stored in an encrypted format as per UIDAI guidelines.
- Digital Personal Data Protection (DPDP) Act, 2023 for user consent, data minimization, and right to erasure.
- UIDAI Guidelines: The system must follow all relevant UIDAI guidelines for data protection and security.
- General Data Protection Regulation (GDPR): The system must comply with GDPR principles, including user consent, data minimization, and the right to erasure.
- The system shall provide a user consent mechanism, informing visitors about data collection, storage, and deletion policies in compliance with Indian legal frameworks..
- All data transmissions shall be encrypted using SSL/TLS standards, and access to sensitive data shall be restricted to authorized personnel only through RBAC.

#### 21.8 Regular Security Audits & Incident Response

- The implementation agency must conduct quarterly security audits during the AMC period and provide reports to Technopark.
- A Security Incident Response Plan (SIRP) must be in place, outlining steps to handle data breaches, including timely notifications to Technopark authorities. SIRP shall be prepared by the implementation agency and shared with Technopark.

#### **Security Auditing**

**Security Auditing:** Security auditing and penetration testing for the entire system, including the **Web Portal**, **Mobile Apps**, **and APIs**, shall be conducted through a **CERT-IN empanelled agency**. A **"Safe to Host" certificate** must be obtained before the system goes live.

- The security assessment shall cover vulnerabilities related to OWASP Top 10, API security, network security, data protection, etc.
- The vendor must remediate all identified vulnerabilities and submit a closure report confirming compliance before deployment.
- Security testing must be conducted periodically, with at least one audit per year post-deployment. A total of **three audits** are within the agency's scope: **before deployment, upon completion of the first**

- **year, and upon completion of the second year**. Payment for each audit will be made upon its successful completion.
- The cost of security auditing, including re-assessments (if required), shall be included in the price proposal.
- Technopark reserves the right to conduct security testing through any CERT-IN empaneled agency at its discretion. If Technopark opts to arrange security audits independently, the scope of security testing shall be withdrawn from the implementation agency, and no payments shall be made to the agency for the excluded audits. The implementation agency shall fully cooperate with the security audit process, including providing necessary technical support, access, and compliance with audit recommendations.

#### **Support & AMC Responsibilities**

To ensure seamless operation post-deployment, the following responsibilities are defined for ongoing support and Annual Maintenance Contract (AMC):

#### 1. Maintenance & AMC Period:

- The implementation agency shall provide free maintenance support for a period of 12 months from the Go-Live date.
- The paid AMC shall commence from the 13<sup>th</sup> month after Go-Live and continue for two years.

#### 2. AMC Scope & Responsibilities

- Issue Resolution: Addressing all reported bugs, security vulnerabilities, and technical issues identified by Technopark.
- Dedicated Support Team: Ensuring availability of a support team to respond to queries and issues within the agreed Service Level Agreements (SLAs).
- Bug Fixes & Performance Optimization: Maintaining system stability and resolving performance-related issues.
- Security Updates & Patches: Implementing security fixes and updates in line with industry best practices.
- Feature Enhancements: Incorporating minor feature updates or improvements as per Technopark's requirements.
- User Support & Training: Providing technical assistance and training to Technopark's admin team and end-users.
- Backup & Recovery Management: Ensuring regular backups and implementing a disaster recovery plan.

 Security Audits: Conducting periodic security audits through a CERT-IN empaneled agency and providing compliance reports.

#### 3. Service Level Agreements (SLAs)

- Response Time: Critical issues must be acknowledged within 2 hours;
   major and minor issues within 4-8 hours.
- Resolution Time:
  - Critical Issues (System Down/ Security Breach): 12 hours
  - Major Issues (Functional Errors): 24 hours
  - Minor Issues (UI Fixes, Non-Critical Bugs): 7 working days
- Availability: The support team must be available 24/7 for critical issues and during business hours for regular support.

#### 4. Penalties for Non-Compliance & SLAs

If the implementation agency fails to meet the agreed SLAs or violates data protection policies, Technopark reserves the right to analyze the non-compliance and impose appropriate penalties based on the severity of the issue.

- o The penalties will be determined based on factors such as:
  - Critical Issues (System Downtime, Security Breach, Data Loss) –
     Immediate impact on operations or security.
  - Major Issues (Functionality Failure, Performance Degradation) –
     Affecting user experience or system efficiency.
  - Minor Issues (UI Bugs, Report Generation Delays, Non-Critical Fixes)
     Impacting usability but not disrupting core functionality.
- Repeated failures (three or more instances) may result in contract termination, withholding of payments, or blacklisting from future Technopark projects.

#### **5. Escalation Matrix**

 A defined escalation process should be implemented to address unresolved issues, ensuring timely intervention at higher levels. The Escalation Matrix shall be shared with Technopark before the Go-Live of the system for effective issue resolution and coordination.

#### VI. Terms and conditions

- 1. Applications shall be developed as per the requirements of Technopark.
- 2. Technopark reserves the right to accept or reject any or all of the offers without assigning any reason whatsoever and to take any measure as it may deem fit, including annulment of this process at any time, without any liability or obligation for such acceptance, rejection, or annulment.
- 3. The proposal shall remain valid for acceptance for a period of 120 days from the date of submission of the proposal.
- 4. The newly developed **Mobile app** shall be deployed as an update to the existing mobile app so that users receive it seamlessly, rather than having to install a new app separately.
- 5. User Manual: User manuals for companies, visitors, security officers, walk-in interview candidates, administrators, etc., shall be prepared by the implementation agency and shared with Park Centre. Additionally, the user manuals shall be made available on the application's home page and respective accounts for easy access.
- 6. **Data Migration:** The possibility of migrating user account credentials may be analyzed by the implementation team.
- 7. **Technology**: The entire system shall be revamped using the latest technologies to ensure optimal performance, security, scalability, and user experience. The Web and Mobile Applications shall be developed using modern web development frameworks, tools, and the latest stable open-source technologies that align with industry's best practices.
- 8. **Source Code:** The complete source code of the entire system as well as completion of any additional change required beyond the initial scope shall be handed over to Technopark upon the successful implementation of the system. This shall include all associated documentation, dependencies, and configurations required for future maintenance and enhancements.
- 9. All applications, software, source code, and related components developed under this project shall be the **sole property of Technopark**. The implementation agency shall have **no rights, claims, or ownership** over the application and shall not sell, license, reuse, or distribute any part of the system to any third party. The agency is strictly prohibited from using the developed

system, its components, or any derivative work for commercial purposes outside this project.

- 10.**SSL Certificate:** Installation of the SSL Certificate is under the scope of the implementation agency.
- 11.**API:** The existing APIs for Walk-In Interviews and Company Listings will be shared with the implementation agency. The implementation agency shall coordinate with the website development team/AMC contractor for any implementation requirements.
- 12. The selected vendor shall ensure full compliance with the "Security and Data Protection Requirements" mentioned above throughout the development, deployment, and maintenance of the Visitor Management System. Any non-compliance or failure to implement these measures shall result in contract termination and legal action as per applicable laws.
- 13. **Hosting:** The **web application** is planned to be hosted at the State Data Centre located in the Thejaswini Building, Technopark Campus, Trivandrum. If required due to any technical or non-technical reasons, it may also be hosted on AWS, Azure, or another cloud platform.

The implementation agency shall provide the necessary support and coordinate with the hosting provider for application deployment, patch installation, system upgrades, ongoing maintenance, any hardware-related support, etc.

The **mobile applications** shall be hosted using Technopark's existing **App Store and Play Store** accounts. All technical support related to hosting of the Mobile App shall be within the agency's scope.

#### 14. Data Ownership & Privacy

- All data collected, processed, and stored through the Visitor Management System (VMS) shall be the exclusive property of Technopark.
- The implementation agency shall have no ownership rights over the data and shall not use, modify, or share the data for any purpose other than the execution of the contract.
- Upon completion or termination of the contract, the agency must transfer all data to Technopark and permanently delete any copies retained in their systems, except for legally required backups.

- The implementation agency shall not share or provide access to visitor data to any third-party vendors, subcontractors, or affiliates without prior written consent from Technopark.
- Any third-party integrations (e.g., Aadhaar authentication, SMS gateways) must comply with data protection regulations and ensure secure API communications.
- All visitor data must be stored within India, and no data shall be transferred outside Indian jurisdiction without explicit approval from Technopark.
- The implementation agency shall cooperate with any regulatory inquiries related to data security and privacy.

#### 15. Incident Reporting & Breach Management.

- In case of a data breach, the agency must notify Technopark within 6
  hours of detection and provide a detailed incident report with
  mitigation measures.
- A Security Incident Response Plan (SIRP) shall be established by the agency, outlining actions to contain, investigate, and resolve security incidents.
- 16. The application shall be universally accessible to all, regardless of technology, platform, or device type, and shall be capable of handling increased web traffic efficiently.
- 17. The web application shall be responsive, ensuring smooth navigation and compatibility across all devices, including PCs, laptops, tablets, and smartphones.
- 18. The application shall be fully compatible with all major operating systems (Windows, macOS, Linux, Android, and iOS) and web browsers (Chrome, Firefox, Safari, Edge, etc.), ensuring seamless functionality and accessibility across different platforms.
- 19. The application shall be scalable and capable of accommodating future requirements.
- 20. **Backup and recovery schedule:** The agency must establish and adhere to a regular backup and recovery schedule to ensure data integrity and availability.

- Automated backups shall be performed at predefined intervals, including daily incremental backups and weekly full backups.
- Backup data must be securely stored in multiple locations, including onpremises and cloud-based solutions, to prevent data loss.
- A disaster recovery plan must be in place, detailing the procedures for restoring data and system functionality in case of failures or cyber incidents. The disaster recovery plan shall be shared with Technopark for review and compliance verification.
- The agency shall conduct periodic verification and testing of backup data to ensure successful restoration.
- A backup log must be maintained, and reports shall be submitted periodically to Technopark for review.
- 21. Necessary **technical support** should be provided for Technopark as and when required.
- 22.**24/7 monitoring** of the application (URL) and production server, including health status (CPU load, disk usage, memory usage, uptime, port status, etc.), shall be within the scope of the implementation agency.
- 23. **Fixing of technical issues:** During the annual maintenance period, the implementation agency shall resolve all reported or newly arising technical issues within a reasonable timeframe, ensuring minimal disruption to system functionality.
- 24. Free Maintenance Period: The bidder shall provide free maintenance support for the entire VMS system for 12 months from the Go-Live date. The paid maintenance contract shall commence from the 13<sup>th</sup> month after Go-Live.
- 25. **Termination of Contract:** If Technopark is not satisfied with the contractor's performance during the AMC period, the contract may be terminated with **one** (1) month's prior notice to the contractor/agency.
- 26.An **Agreement** outlining the services provided under the contract shall be executed between Technopark and the agency immediately upon acceptance of the Work Order.
- 27. The selected agency shall execute a **Non-Disclosure Agreement (NDA)** with Technopark before commencing any work. This agreement shall ensure the confidentiality of all sensitive information, data, and proprietary details shared during the course of the project.

- 28. Action on Non-Compliance by the Successful Agency: If the successful agency fails to enter into an agreement with the designated authority, does not execute the work as specified in the System Requirement Document (SRD) within the stipulated timeframe, or is unwilling to execute the work, it shall be debarred from participating in any future bids, works, or activities of Technopark for one year and will be recommended for blacklisting by the competent authority as per Technopark's standard procedure. In such cases, the next lowest agency (L2 bidder) will be invited to execute the work at the quoted price of the L1 agency. If the L2 bidder/agency declines, the work will be retendered or re-notified.
- 29.**Thermal Printers**: Thermal printers are used at the entrance gates to print instant passes for individuals who do not have smartphones. The implementation agency may inspect the condition of the existing thermal printers and recommend whether they should be replaced with new ones.

The existing printer has a print speed of 150–250 mm/sec and offers connectivity options including USB, Serial, and Ethernet, with Bluetooth available on select models. Driver support is provided for Windows and certain versions of Linux and macOS.

- 30. **Period of completion:** The web and mobile application development, including, testing, security auditing, and deployment, shall be completed within **four months** of the date of acceptance of the Work Order.
- Screenshots of the Existing Application are attached as Annexure-I
- > Detailed Price-Bid is attached as **Annexure-II**
- Payment Terms are attached as Annexure-III

# **Screenshots**

#### **Visitors pass**

#### VIP pass



#### VISITOR PASS

**Electronics Technology Parks** 



#### PRASANTH KUMAR AM

Permitted to visit
Park Centre
TECHNOPARK PHASE I
To Meet: Mr. Azeeb AK, AGM. IT



Validity: 06 Feb 2025 3:30 PM

# TECHNOPARK HARMONY@WORK

#### **VISITOR PASS**

VIP

TRENSER Technology Solutions

#### OLDER THE OWNER OF THE OWNER OWNER

Permitted to visit

Thejaswini

**TECHNOPARK PHASE I** 



Validity : 12 Mar 2025

#### **Instant pass**

# One Time Pass



#### INSTANT VISITOR PASS

#### **Electronics Technology Parks**



#### PRASANTH KUMAR AM

Purpose of Visit: Delivery/Courier

Permitted to visit

Park Centre

TECHNOPARK PHASE I



Valid Till: 18-03-2025 04:08:PM
Authorised By (Signature from Official)

TECHNOPARK

VISITOR PASS Official

Electronics Technology Parks



A A
Permitted to visit
Park Centre
TECHNOPARK PHASE I
To Meet: Prasanth



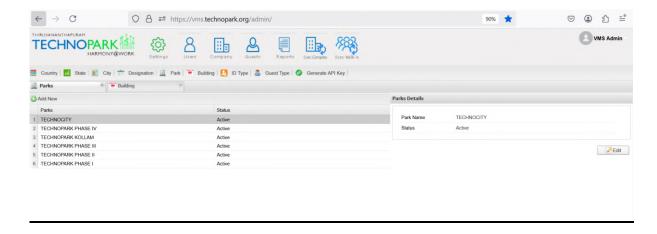
25D09T1014 Validity : 09 Apr 2025

#### **Walk-In Interview Pass**

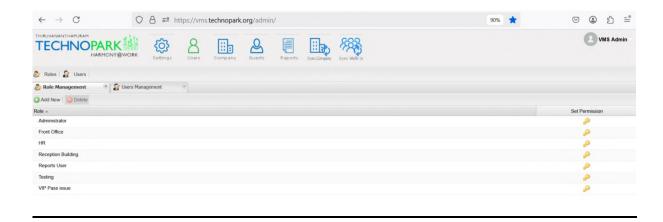


### **Admin portal of VMS**

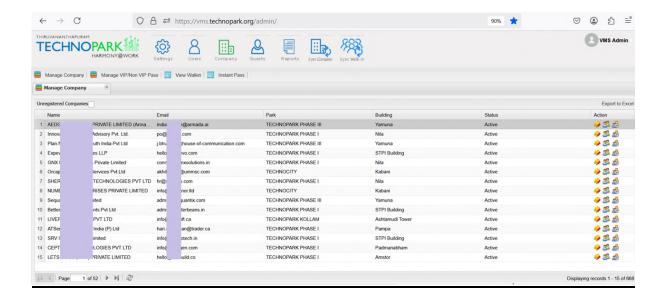
#### **Settings**



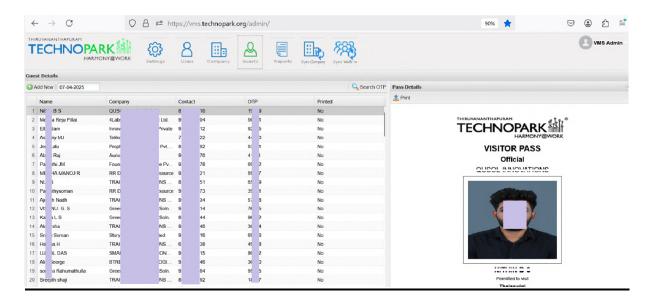
#### **Users**



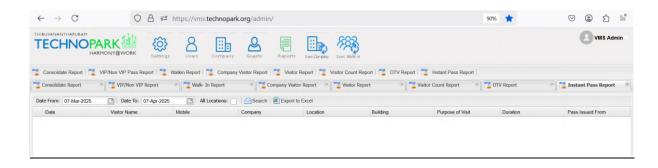
#### Manage Company



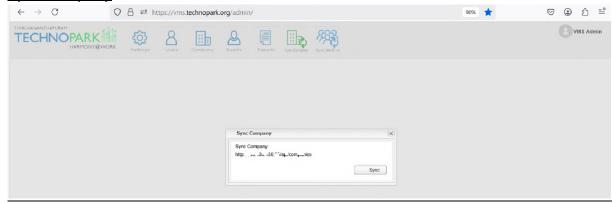
#### **Manage Guests**



#### Report



#### Sync Company

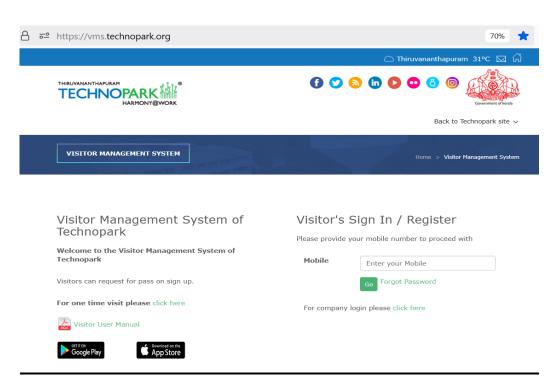


## Sync Walk-In



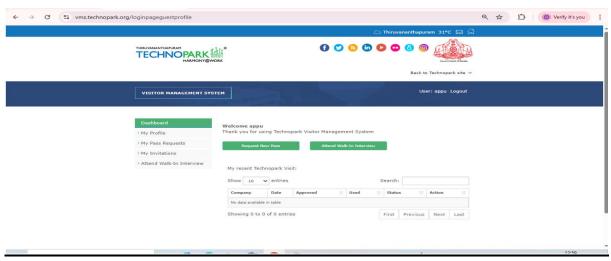
### **Public access web portal**

https://vms.technopark.org

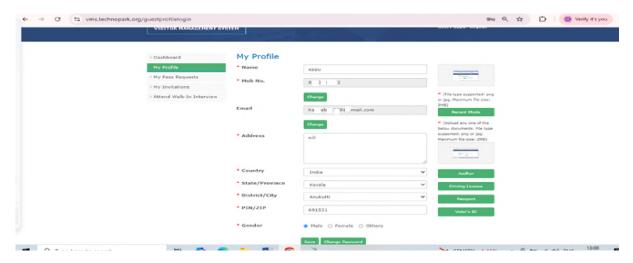


#### **Visitors web Portal -Home Page**

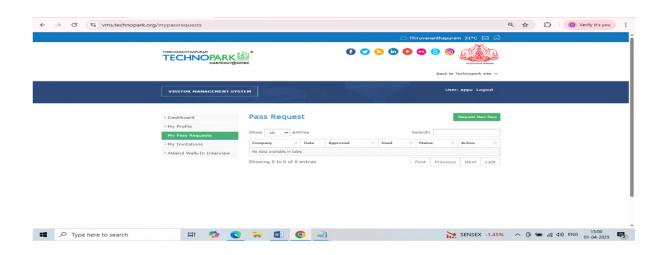
#### Dashboard



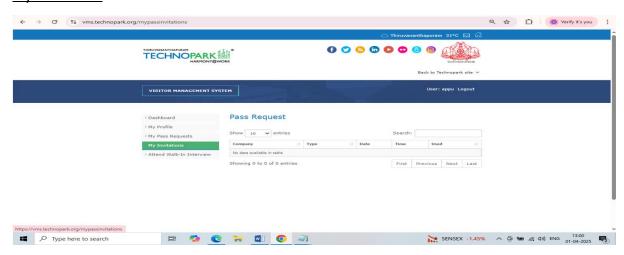
# My profile



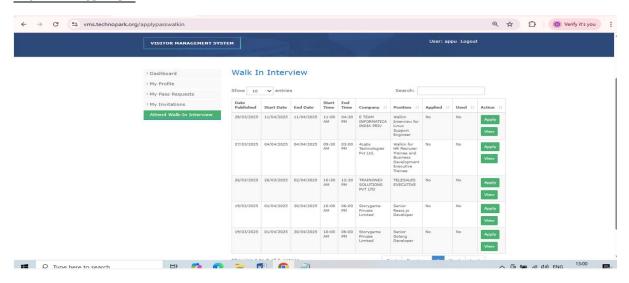
#### My pass request



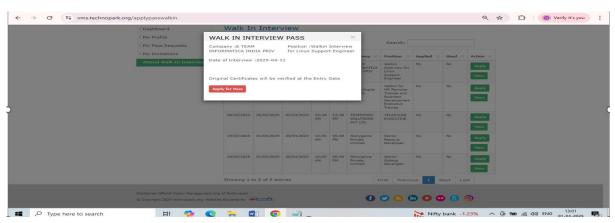
#### My invitation



#### Walk-in interview



#### Applying walk-in interview

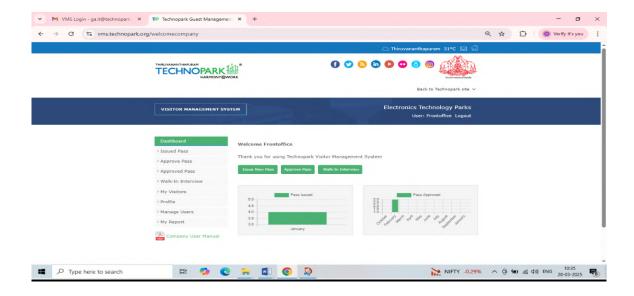


#### **Company Login portal**

#### Login Page



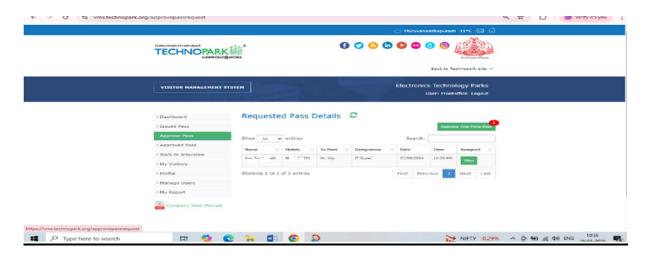
#### Company dashboard



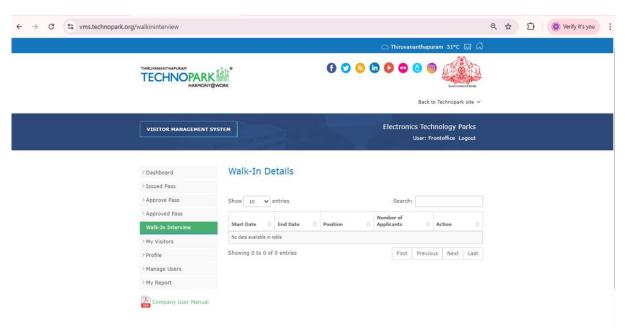
#### **Issued pass**



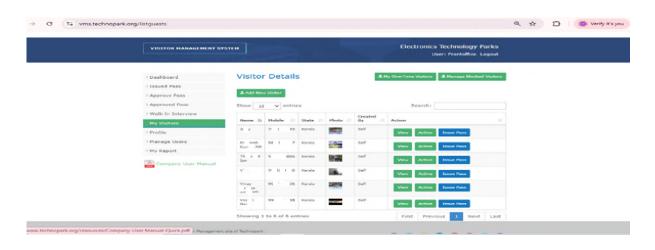
#### Requested pass details



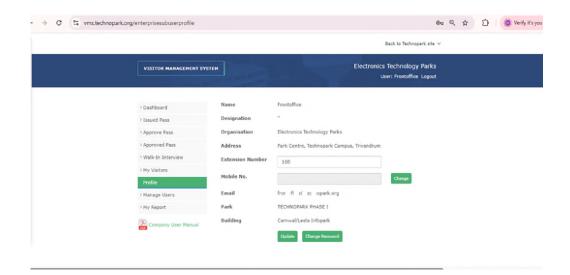
#### Walk in details



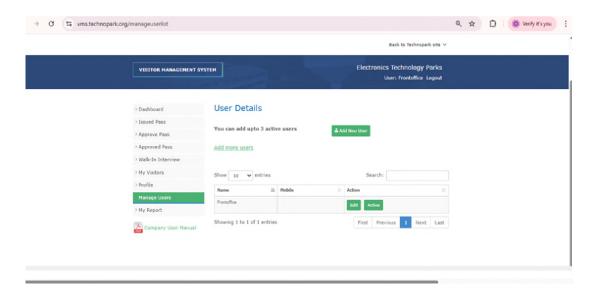
#### Visitors details



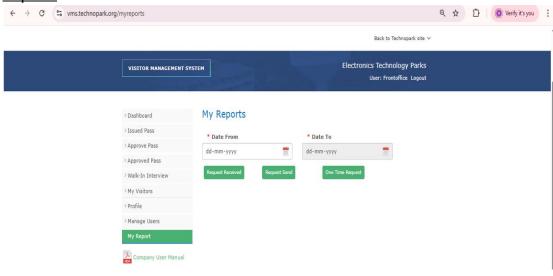
#### **Profile**



#### User details



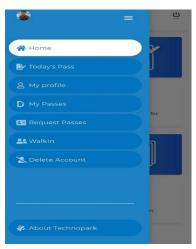
# Reports



## **Mobile application of VMS**

"Technopark Visitor"

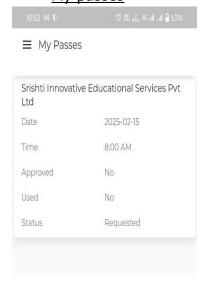
# **Application**



#### Visitors pass View in mobile App



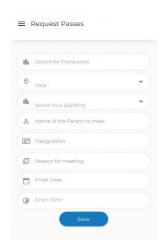
#### My passes



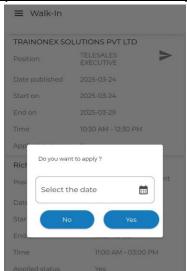
#### **Home Screen**



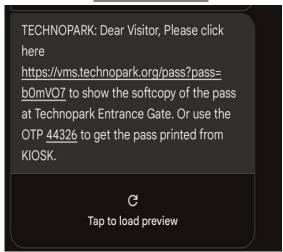
#### Request passes



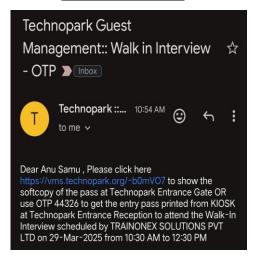
#### Apply for a Walk-In interview pass



# **SMS Notification**



# **Email Notification**



End of Annexure-I

# **Annexure -II**

# **Price Bid**

Address:

Contact Person Name:

Designation:

Contact Number:

# 1. VMS Web Application Development (A)

VMS Web Application Development (A)					
SI No	Activity	Amount in INR excluding GST (A)			
1	Design, Development, Testing, and deployment (https://vms.technopark.org/)				

# 2. VMS Mobile Application Development (B)

VMS Mobile Application Development (B)					
SI No	Activity	Amount in INR excluding GST (B)			
1	Design, Development, Testing, and deployment of Mobile App for VMS - Technopark Visitor				

# 3. Security Auditing (C)

Security Auditing (C)					
SI No	Activity	Amount in INR excluding GST (C)			
1	Comprehensive security audit of the entire Visitor management System (web and mobile applications including all modules, logins, API's, etc.)- for Go-Live of the System				

2	Comprehensive security audit of the entire Visitor management System (web and mobile applications including all modules, logins, API's, etc.)- upon completion of the first year					
3	Comprehensive security audit of the entire Visitor management System (web and mobile applications including all modules, logins, API's, etc.)- upon completion of the second year					
	Total Charges for Security Auditing (C)					

# 4. Annual Maintenance Contract (D)

Annual Maintenance Contract (D)				
SL No	Activity	Amount in INR excluding GST		
1	1 <sup>st</sup> Year AMC after the free maintenance period of 12 months			
2	2 <sup>nd</sup> Year AMC after the free maintenance period of 12 months			

Grand Total in INR, excluding GST (Web	
Application Development, Mobile	
Application Development, Security Auditing,	
and AMC for 2 years after the free	
maintenance period of 12 months	
(E=A+B+C+D)	

# **Amount in Words:**

[The Grand Total (	F) v	will be	considere	d for t	he nri	ice hi	d eva	luation
i ilie Gialia i Otal (	<b>L</b> / Y		considere	u ivi t	JIC PI		u Cva	Iuativii

Man-day cost in INR, excluding GST for	
additional work beyond the initial scope of	
work:	

Signature:

Seal:

# **Payment Terms**

The Technopark shall pay the implementation agency from time to time in instalments.

The payable schedule is as tabulated below,

# 1. Web Application Development

- > 25% of the Web Application development cost will be paid upfront (after the acceptance of the design).
- > 50% of the Web Application development cost will be paid when the system is live from the production server after Security Auditing.
- > 15% of the development cost will be paid 3 months after the system goes live from the production server.
- > 10% of the development cost will be paid 6 months after the system goes live from the production server.

# 2. Mobile Application Development

- ➤ 25% of the Mobile Application development cost will be paid upfront (after the acceptance of the design).
- ➤ 50% of the Mobile Application development cost will be paid when the App is live from the hosting accounts (App Store and Play Store) after Security Auditing.
- ➤ 15% of the Mobile Application development cost will be paid 3 months after the application goes live from the hosting accounts.
- ➤ 10% of the Mobile Application development cost will be paid 6 months after the application goes live from the hosting accounts.

#### 3. Security Auditing (Web and Mobile Application)

#### 1<sup>st</sup> Security Audit: For Go-Live of the System

➤ 100% of the Security Auditing charges will be paid after submitting the Safe to Host Certificate for Web Application and Mobile Application from the Security Auditing Agency.

#### 2<sup>nd</sup> Security Audit: upon completion of the first year

> 100% of the Security Auditing charges will be paid after submitting the Safe to Host Certificate upon completion of the first year.

#### 3<sup>rd</sup> Security Audit: upon completion of the second year

➤ 100% of the Security Auditing charges will be paid after submitting the Safe to Host Certificate upon completion of the second year.

#### 4. Annual Maintenance Contract

> Payment towards the AMC will be quarterly after completing the service.

# **Screenshots**

# **Visitors pass**

# VIP pass



#### VISITOR PASS

**Electronics Technology Parks** 



#### PRASANTH KUMAR AM

Permitted to visit
Park Centre
TECHNOPARK PHASE I
To Meet: Mr. Azeeb AK, AGM. IT



Validity: 06 Feb 2025 3:30 PM

# TECHNOPARK HARMONY@WORK

#### **VISITOR PASS**

VIP

TRENSER Technology Solutions

#### OLDER THE OWNER OF THE OWNER OWNER OF THE OWNER OWNER

Permitted to visit

Thejaswini

**TECHNOPARK PHASE I** 



Validity : 12 Mar 2025

# **Instant pass**

# **One Time Pass**



# INSTANT VISITOR PASS

**Electronics Technology Parks** 



#### PRASANTH KUMAR AM

Purpose of Visit: Delivery/Courier

Permitted to visit

Park Centre

**TECHNOPARK PHASE I** 



Valid Till: 18-03-2025 04:08:PM
Authorised By (Signature from Official)

TECHNOPARK

VISITOR PASS Official

Electronics Technology Parks



A A
Permitted to visit
Park Centre
TECHNOPARK PHASE I
To Meet: Prasanth



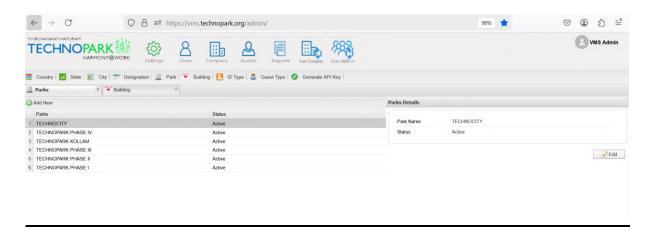
25D09T1014 Validity : 09 Apr 2025

# **Walk-In Interview Pass**

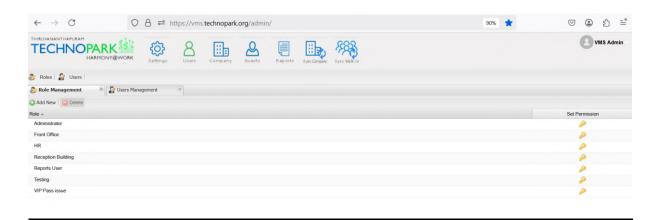


# **Admin portal of VMS**

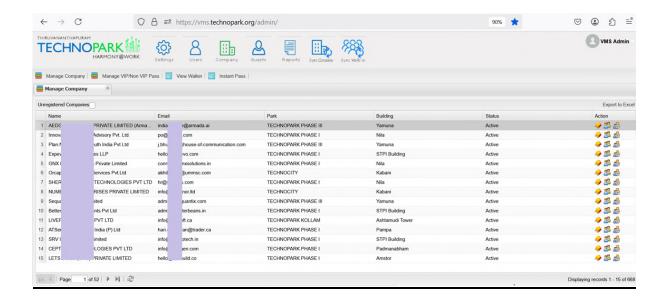
# **Settings**



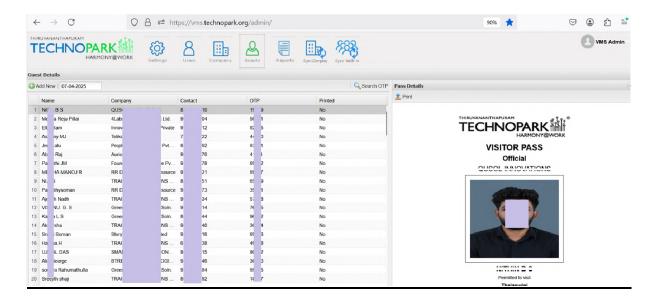
#### **Users**



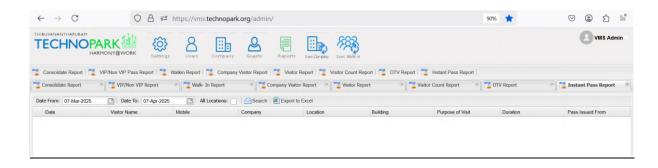
# Manage Company



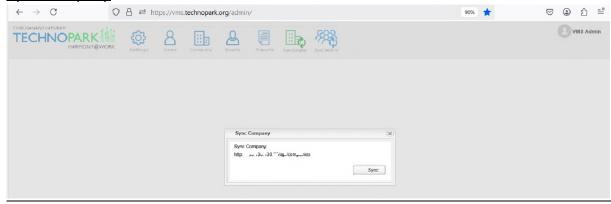
#### Manage Guests



#### Report



# Sync Company

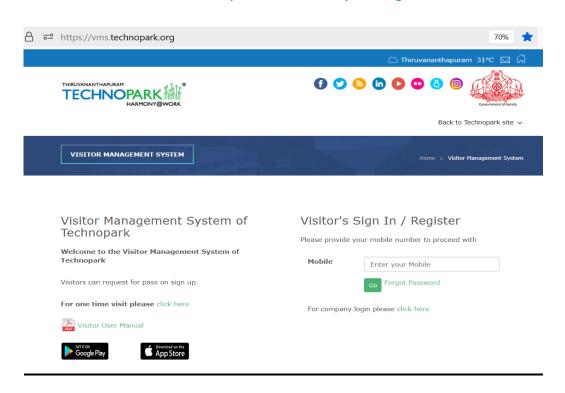


# Sync Walk-In



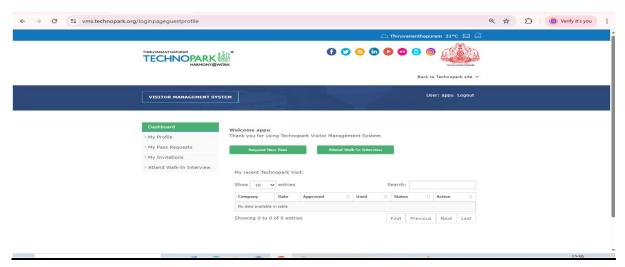
# **Public access web portal**

https://vms.technopark.org

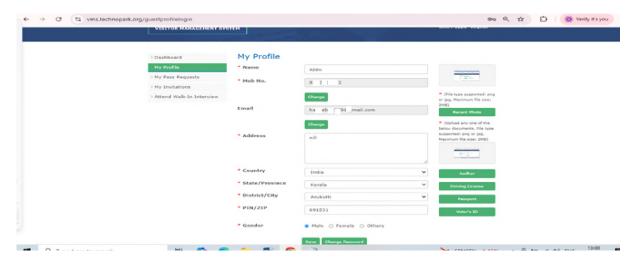


# **Visitors web Portal -Home Page**

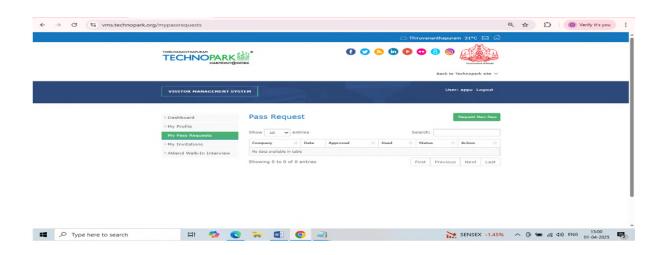
#### Dashboard



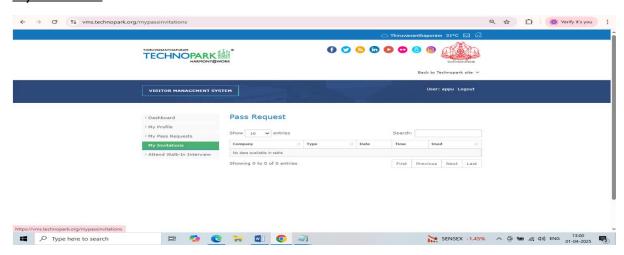
# My profile



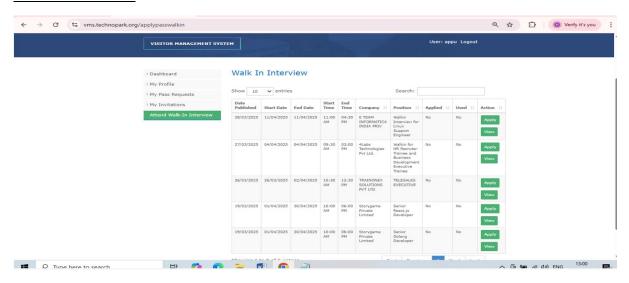
#### My pass request



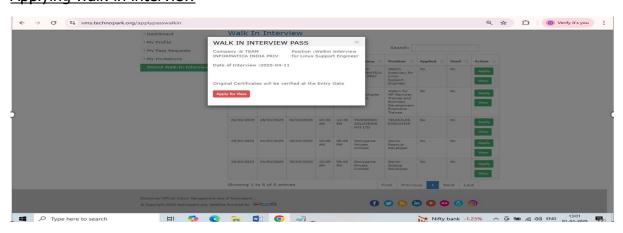
# My invitation



# Walk-in interview



# Applying walk-in interview

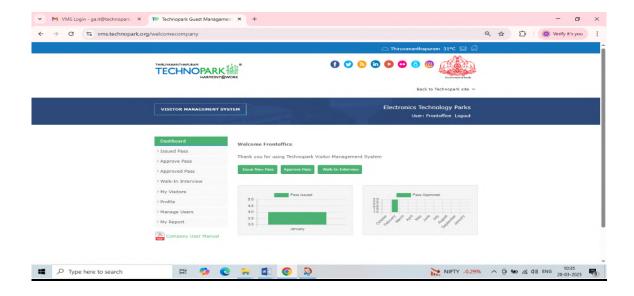


# **Company Login portal**

# Login Page



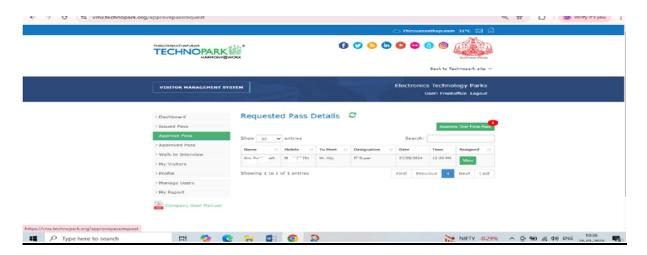
# Company dashboard



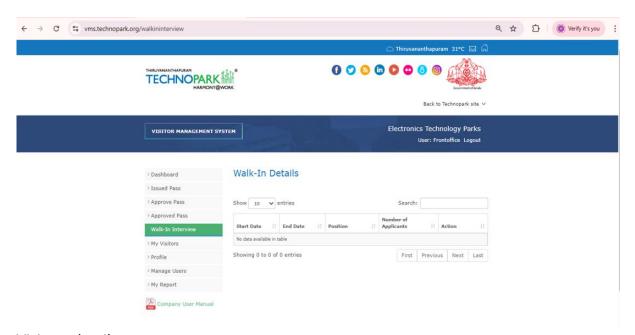
# Issued pass



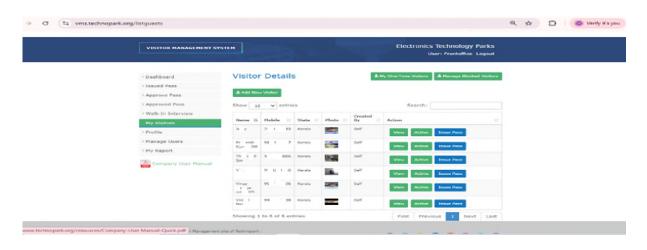
# Requested pass details



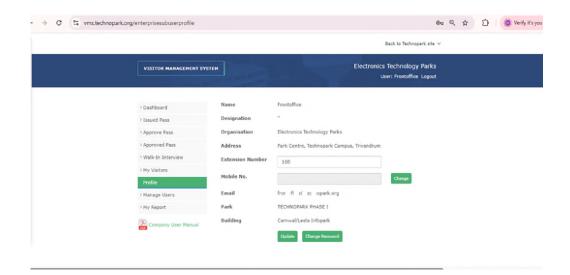
#### Walk in details



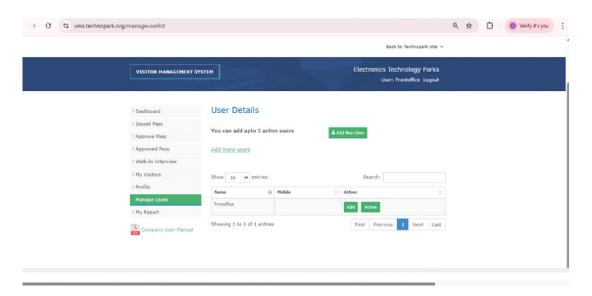
# Visitors details



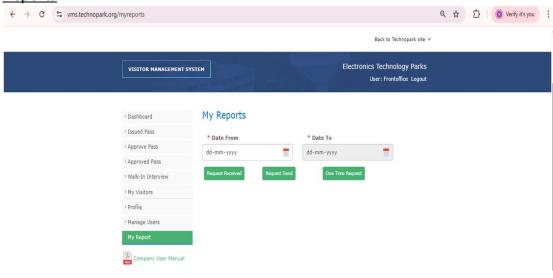
# **Profile**



# User details



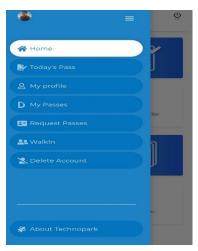
#### **Reports**



# **Mobile application of VMS**

"Technopark Visitor"

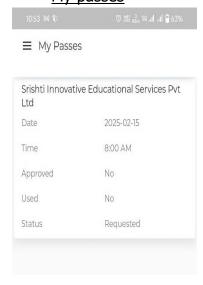
# **Application**



# Visitors pass View in mobile App



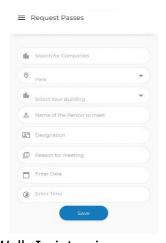
# My passes



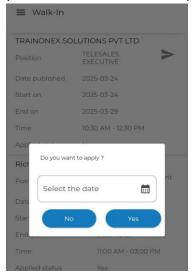
# **Home Screen**



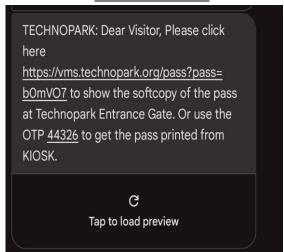
# Request passes



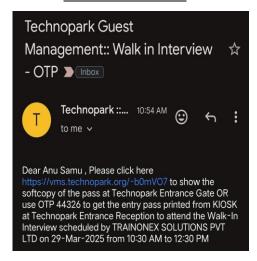
# Apply for a Walk-In interview pass



#### **SMS Notification**



# **Email Notification**



End of Annexure-I