

In Focus

eHRMS- Human Resource Management System

Digital platform for Personnel Management and Administration from "hiring to retiring"



एन आई सी
NIC

 **Digital India**
Power To Empower



“

eHRMS is an initiative by which technology will be put to optimum use. Other Departments and State Government will also follow this system in due course. All the initiatives are in direction of citizen-centric approach of the Government.

”

Dr. Jitendra Singh

Hon'ble Minister of State for
Personnel, Public Grievances & Pensions



eHRMS is a step towards enhancing the efficacy and transparency of government organizations by focusing on their employees. This one of a kind application in the spectrum of e-Governance projects aims to harness the capabilities of ICT to improve the way HR processes are carried out. It has been developed with the objective of digitizing the existing service books, creation of new service books for new employees and automation of the updation of service books thereafter for day-to-day processing. The project is a unique initiative as it provides workflow-based solutions for all the HR related services that impact service books. It will cater to approximately 60 lakh employees of the Government of India across various offices throughout the country.

The current system maintains service books in a physical format, which are susceptible to misplacement, damage, loss etc. On many occasions, the service books are not up to date, employee verifications are not regular, and in cases of transfer, the service book is moved to the place of posting after a long time. These issues lead to delay in sanctioning and payment of due benefits, pension etc. Many cases of regularization of leaves etc., received by the department during the tenure of an employee or after many years of their retirement often lead to litigation and uncalled for interest on delayed payments. Such issues impact the employment experience and overall satisfaction of an employee.

The Department of Personnel and Training (DoPT), in its large nodal role, acts as a formulator of policy and ensures that certain accepted standards and norms, as laid down by it, are followed by all the Ministries and Departments. It has issued guidelines for benefit of all the Ministries and Departments, and it monitors the implementation of the same. It also advises all organizations of the Central Government on issues related to personnel management. DoPT entrusted the National Informatics Centre (NIC) to

design, develop, roll out and maintain the eHRMS application.

Key Features

- **Single source of truth:** The application serves as a single source of employee authentic data and is comprised of the record of complete employee service data during the employee's tenure, right from joining to retiring.
- **Robust rule engine:** The application has been meticulously designed with the rules and policies laid down by DoPT, governing all HR related services availed by the employees. The rule engine serves as the backbone of the application.
- **Workflow based approval:** The path for approval process can be customized by each department according to organization's structure and hierarchy. Various routes/ paths of approval can be set based on conditions and services.
- **Dashboards:** These provide a comprehensive idea about the breakup of an organization based on parameters such as gender, cadre, salary group, pendency of various applications and rollout status of an application. Users may further drill down to identify bottlenecks and existing issues.
- **Alerts/ Notifications:** The system has a provision for alerts/ notifications for employees so that they can check the status of their service applications, and find out that with whom they are pending. The approvers also receive alerts for applications pending at their end.
- **Integration with other applications:** The application integrates with external applications via web services. Integration with the Public Financial Management System (PFMS) has already been completed, and the application also integrates with Bhavishya and Smart Performance Appraisal Report Recording Online Window (SPARROW) system.
- **Email and SMS services:** Email



“ eHRMS (electronic Human Resource Management System) is a flagship program of the Government of India being implemented by this Department. eHRMS will digitize HR process, leading to several benefits for the Government employees and also increasing efficiency. It also provides analytics to the senior administration. This will help in policy formulation and implementation. I am glad to inform that eHRMS is now ready for roll-out.

Dr. C CHANDRAMOULI, IAS
Secretary
Dept. of Personnel & Training

and SMS services have also been provided, in addition to alerts in the application, to remind employees of applications pending at their level, training that has been assigned for them etc.

Besides these features, the application also serves as a common document repository for employees. It enables ease of sharing information among stakeholders, along with round the clock accessibility.

Technologies Used

State-of-the-art technology has been used to develop the robust, workflow-based eHRMS application.

Each activity performed by an employee in eHRMS is treated as a service (for e.g., apply for leave, cancel leave, extend leave etc.). Each service has three layers. First layer is a form to get input from employee, second layer is the service workflow that decides the path to be followed from application request to service book entry. Third layer is the service rule such as CCS rules. Each layer is developed separately and integrated as per the requirement. This makes the software light weight and scalable.

Front-end Technologies

- HTML 5
- Cascaded Style Sheets (CSS)
- Java Server Pages (JSP) 2.0
- Java Script and jQuery
- Bootstrap
- Google Charts

Database

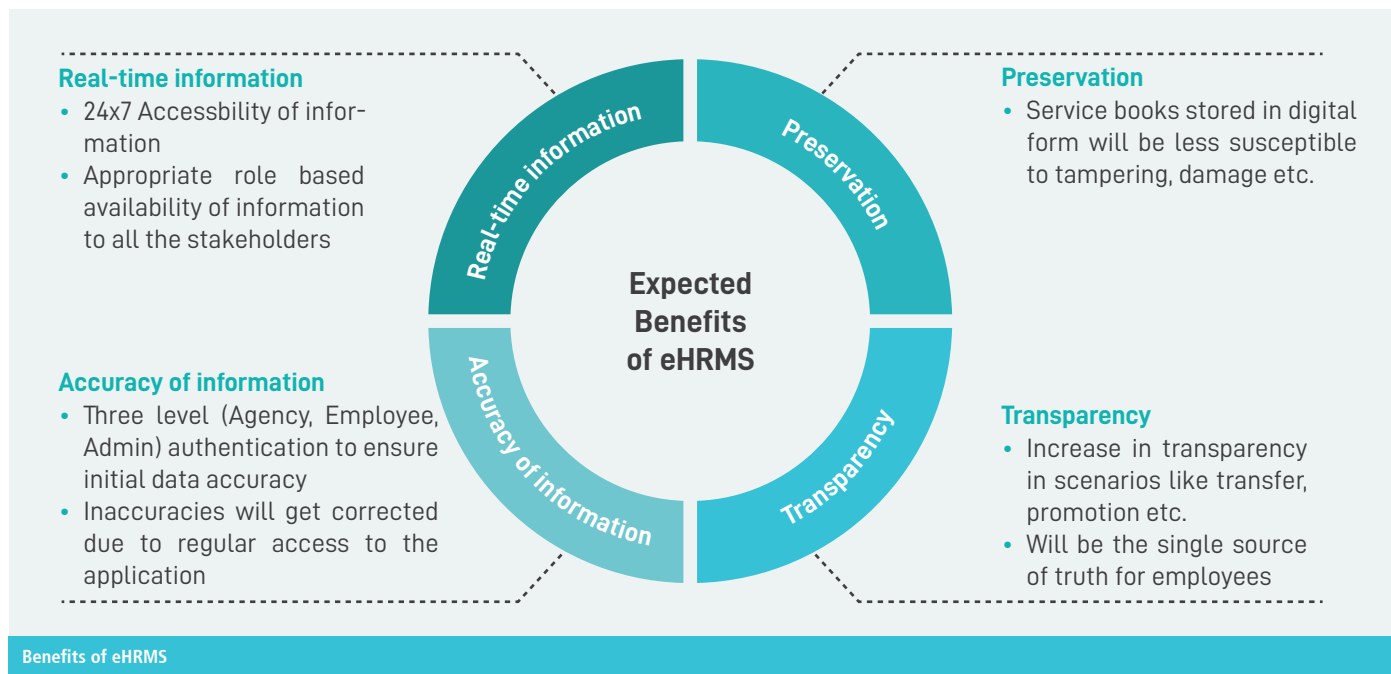
- Postgres 11

Languages/ Framework

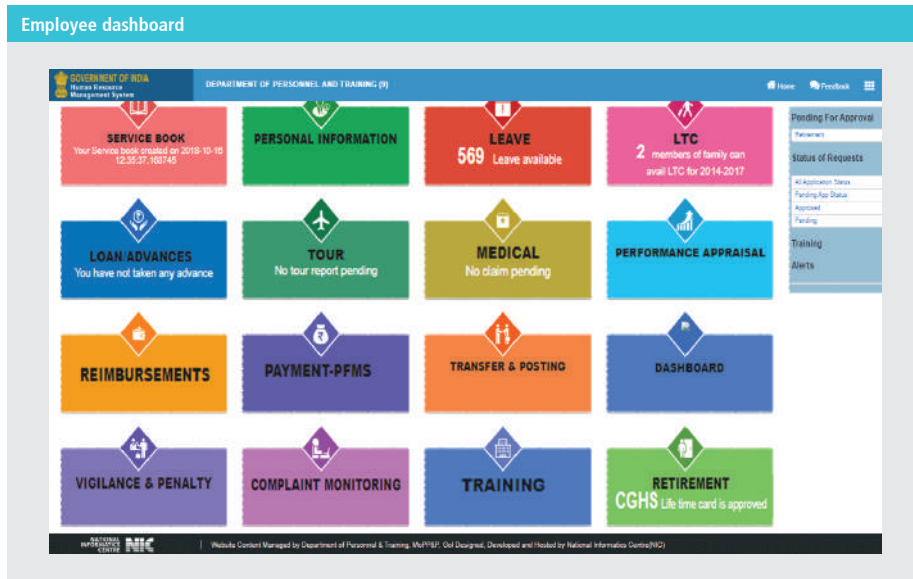
- JAVA, J2EE
- Spring 4
- Hibernate 4
- Jasper Report 6

Security Measures

- eSign has been used for non-repudiation of data.
- Provision is made for Single Sign-on.
- Secured Socket Layer (SSL) provides network level security.
- Authorization matrix is provided to control the hierarchy of data access rights.
- Provision for maintenance of Data



Benefits of eHRMS



base Logs and Audit Trail have been made.

- Data hashing is also done to enhance security.

Modules

All the modules in eHRMS have a robust rule engine and a workflow-based approval process at its backbone. In addition to the various services provided by each module, employee level reports are also

available for employees' perusal and requisite action. A provision for downloads has also been provided wherein employees can easily download government forms related to various HR services.

eService Book

At the heart of the application are the digitized service books of employees. The initial step of the project implementation is to scan the physical

service books and then digitize them accurately. The service book module allows employees to view their service data in both scanned and digitized formats. This will also allow employees to check if there are any discrepancies in data entered into the system and eventually, verify service books to check whether the data is accurate and updated. This module enables the annual mandatory self-verification of service books by employees. The service book module stores data in a structured format, thereby enabling robust analysis of employee service data.

Personal Information

This module provides all the services related to viewing and amendment of an employee's personal information. Employees can use this module to edit information related to their family members (occupation, marital status etc.), nominations, address, reporting/controlling officer, documents/certifications, qualifications etc. It also enables them to access and verify their personal data and ensure that they are up to date.

Leave

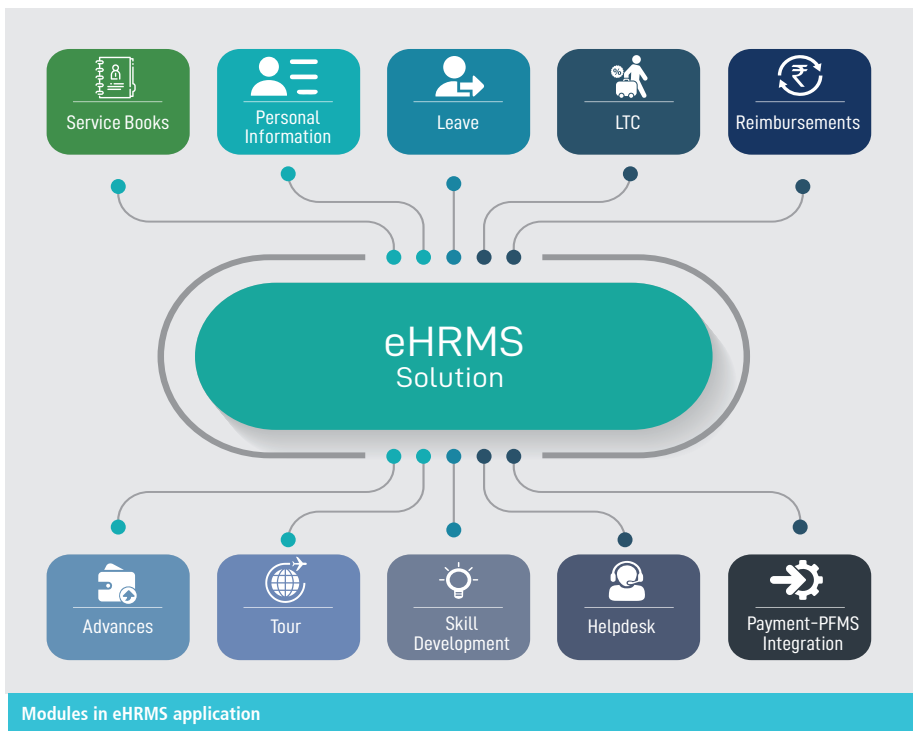
Providing an array of possible services related to leaves, this module allows employees to apply for leaves, cancel the applied leaves, extend the leaves and join after returning from leaves. They can also change the type of leave and seek permission for station leave. All the rules associated with leaves are already programmed into the system, and therefore, employees cannot apply for leaves that are not allowed to be taken.

LTC

Employees can view/ declare their Leave Travel Concession (LTC) hometown. They can apply for LTC or leave encashment, claim LTC, cancel LTC etc., by using the module.

Reimbursements

This module has a provision for applying for four different kinds of reimbursements, namely Newspaper, Telephone, Medical, and Children



Education Allowance (CEA) Reimbursement. The module has been designed keeping in mind the eligibility of different types of reimbursements for different levels of officers.

Advances

Employees can use this module to apply for advances (General Provident Fund i.e., GPF advance/ withdrawal, house building advance, computer advance), cancel and refund advance, convert GPF advance to withdrawal, house building advance etc.

Tour

This module allows them to apply for tour and tour advance, refund TA advance, cancel tour, and claim tour.

Skill Development/ Training

The skill development module facilitates user departments to register/ engage different training institutes and then view the training calendar published by those institutes. Departments can select the trainings required by their employees. The training may be assigned to individual employees, who will be informed about the same through the dashboard provided. Employees can also request for additional training courses from the training calendar available. The system will also gather the work done by employees and the quality of work done by them in that domain. Based on the data targeted, training programs may be assigned to enhance employees' suitability for their roles.

Helpdesk

The helpdesk module enables user to lodge complaints regarding their applications. The admin can view complaints, and there is also a provision for complaint resolver who is responsible to take due action and monitor/ update the status of complaints.

Transfer and Posting

This module allows employees to apply for transfer and deputation. Employees can choose if it is a mutual transfer or otherwise they can fill in three

Leaves module in eHRMS



preferences of location for their transfer request.

Reports

Each module has a panel for report provided for employees. It has a section named My Reports, which consists of reports related to the application status of a particular employee, for e.g., status of leave requests, reimbursement for current year etc. There are also subordinate reports, which provide details of application requests of an employee's subordinates. This helps the mid-level management to get a clear picture of the availability of subordinates, and it also facilitates informed decision-making for approval/ rejection of application requests from subordinates.

Integration with Other Systems

The eHRMS application seamlessly integrates with other systems such as PFMS, Bhavishya and SPARROW. PFMS is a platform that facilitates a sound public financial management system for the government by establishing an efficient fund flow system as well as a payment cum accounting network. The eHRMS services are tightly coupled with the PFMS application. The two applications have been integrated with the use of web services. Employees can now request to view their salary slip, Form 16, Income Tax Statement, GPF

Statement etc., directly from the eHRMS application. This is another step towards providing all services related to Human Resources under one umbrella. Data exchange servers are in place to facilitate exchange of data from external applications. The system can, hence, be easily integrated with other applications like Bhavishya, SPARROW etc.

Dashboards

Currently, the employee service records are maintained in physical service books and/ or loosely coupled HR modules. This did not allow for a comprehensive analysis of the service data of employees. The eHRMS application has provided a structured data repository for all employee records related to all the HR services. It is comprised of comprehensive, interactive and easy to use dashboards for both the management and employees separately.

Management Dashboards

Management dashboards have been designed with the aim of providing an in-depth analysis of data available in all e-service books. It provides details related to gender/ category/ cadre/ service group/ pay band/ educational qualification. The very purpose of the management dashboard is to enable the policy makers to draw actionable insights using the consolidated analysis



“DoPT's initiative on the implementation of eHRMS is a step towards good governance. The Commission has also taken up this initiative on priority and enrolled all its 246 employees, and service book of most of the employees have been scanned and digitized. E-leave application has also been implemented and is being used by maximum number of employees since August 2019. The system will significantly help in making public delivery more satisfactory and keep information updated and accessible to the employees.

P. DANIEL
Additional Secretary
Central Vigilance Commission

of employee data available in the application.

Management dashboards have been designed and segregated into the following categories:

HR Analytics: This section focuses on displaying the distribution of employees in an organization or in a service based on metrics such as age, education discipline and pay-band. It also provides charts related to hire retire ratios, types of leaves taken by employees etc. This section carefully uses data in the personal information module and helps analyze the current state of the human capital in a particular organization/ department.

HR Strength: This section provides charts related to category wise, service group wise and gender wise distribution of employees. It also provides crucial data related to an employee's retiring and tenure of the staff. This section acts as a decision support system for employee recruitment and selection strategies in government organizations.

Pendency: This part of the dashboard is dedicated to analyze the pending service requests of employees. It has metrics like the span of pendency wherein a user can drill down to understand the type of services that are pending for approval and who is it pending with. The pendency data may help increase accountability in the employees and also reduce unnecessary delays in approval of applications.

HR Development: This section provides charts related to the various training and capacity building activities in an organization. It shows staff who are currently in training, various trainings taken by them in the current year etc. Training data of employees in an organization may eventually serve as a source of analyzing employee skills. This may also be critical to understand skill gaps in an organization and requirement of new training courses.

eHRMS Roll-out Status: This section

is extremely essential to assess various implementation activities going on in different Ministries. It is important to keep a track of number of service books scanned, employee authentication done, admin/ agency approval completed etc., across various Ministries. This helps in understanding the quantum of work pending across Ministries/ Departments.

Employee Dashboard

Employee dashboard provides employees with a single view of the array of services in eHRMS and enables them to access services to be availed. Besides modules, it also comprises of the following sections:

Pending for approval: This shows the application requests pending for action at the employee's end.

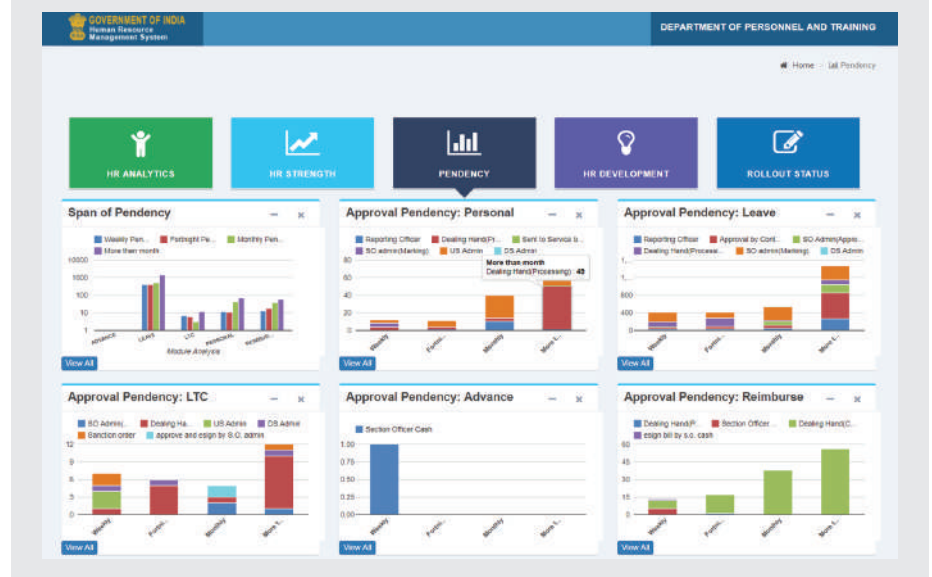
Status of requests: This displays the status of applications submitted by the employee. They can view whether the application is approved or pending, with whom it is pending, type of application etc.

Training: This displays trainings assigned by the admin to the employee.

Target Users

The eHRMS application touches all

Dashboard showing features of Pendency



aspects of HR for an employee. Hence, all the stakeholders currently involved in Human Resource activities are the target users of the application.

- All government employees
- Transfer and posting controlling employees
- Promotion controlling employees
- Vigilance and penalty controlling authorities
- Administration section of each office
- Personnel section of each office
- Finance section of each office

Services to Stakeholders

Employees

Digitized service books have increased accuracy and transparency in employees' service books data. Employees can access their data any time and request for an update, if required. Unnecessary delays in application approval and disbursement of due benefits have also reduced. All the HR related services can be accessed via the same platform, and the pending application requests can also be tracked. The advent of eHRMS has made the HR activities for government employees seamless and hassle-free, which may result in an increase in overall employee satisfaction.

Administration Employees

The application has a separate role-based access for administration/ establishment employees in an organization. It has led to a drastic reduction in the amount of time and effort that was required by admin to perform their day-to-day activities. The application has simplified processes such as service book entry/ update, organization management (section, division, post etc.), employee management (posting, transfer, change in reporting/ controlling officer, change in work status etc.) and vigilance. Each activity has witnessed an extreme improvement in efficiency with respect to time and effort, thereby reducing work load on administration offices.

Mid-level Management

Apart from services offered to employees, the mid-level management employees can view data related to their subordinates. The subordinate reports help approvers take informed decisions while approving/ rejecting employees' application requests. It also helps the mid-level management employees gauge the availability of their subordinates and plan accordingly.

Top-level Management

The application stores employee service



“

With digital transformation in the Human Resource Management space, our solution eHRMS has turned out to be a one-stop solution addressing multiple needs of an employee as well as an organization. Functionalities like service book, leave management, reimbursements, tour & travel etc., have not just helped us build an organized HR ecosystem but have also paved the way to cull out meaningful HR analytics and insights that will help the government in formulation of various policies.

eHRMS, driven by the Department of Personnel & Training, is receiving widespread acceptance by government organizations and the demand is also being experienced in the States.

DR. NEETA VERMA
Director General
National Informatics Centre

”

data in a structured form and facilitates automatic updation of service books. The structured data storage allows the application to analyze service data and illustrate them in the eHRMS dashboard. The top-level management may make use of the interactive and comprehensive data visualizations in the dashboard as a decision support system. The dashboards are crucial to provide data-driven decision-making for issues like hiring, training, financial planning, training requirement etc., in government organizations.

Dashboard showing features of HR analytics



Implementation Methodology

The application has already been implemented in DoPT, and it is being used by their employees. A set of standard processes have been put in place so as to ensure that the entire process of roll-out is seamless and hassle-free.

Following steps are being undertaken for the roll-out of the application:

- Nodal officer who shall be responsible for coordinating the entire process of implementation shall be identified from each Ministry/ Department.
- Roll-out managers shall be appointed, trained and deployed at the premises of organizations for handholding support.
- Organizations are registered on the eHRMS platform; separate instances are created for each organization.
- The existing service books are handed by respective admins for scanning.
- Latest employee information which is required for decision-making shall be entered into the system.
- Scanned service books are uploaded for employees legacy data.
- The employee information shall be shown to the employees for self-verification.
- After employee verification, the information shall be shown to administration division for approval.
- Service workflows are taken from the administration office, discussed and entered into the system for various services of eHRMS.
- All employees with approved service books (legacy data) can use eHRMS services such as personal information, LTC, leave, advances and tour on a day-to-day basis.
- Service books shall get updated automatically.
- e-signed pdf for each online service shall also be stored automatically.

Implementation Support

The Department of Personnel and Training, along with the National Informatics Centre, is facilitating the process of training and implementation of eHRMS. A demo site is available to help end users explore the software with test data. Module wise user manuals have also been prepared for ready reference of the users. In addition to the user manuals, training videos explaining the functioning of various services have been prepared for easy understanding. These support materials are available on the demo site as well as on the online site for users to view and download. To facilitate a seamless implementation, a separate manual has been drafted for roll-out managers, which is used to train them, before they are posted to different Ministries/ Departments for application roll-out. A standard operating procedure has also been prepared, stating the process of implementation in a time-bound and actionable manner. It lays down guidelines related to the scanning process, pre-requisites for implementation and stakeholders roles & responsibilities.

Implementation Status

The application has already completed a very successful pilot in DoPT. The services are in use by their employees, and more than 13000 applications have already been processed by the system. It has also been rolled out to 31 Ministries/ Departments with the eServicebook module currently being used. Other seven modules (Personal Information, Leave, LTC, Reimbursement, Advance, Tour and Training) shall also be implemented in a short time. The

application has generated a lot of demand in government organizations. As a result, it will be soon rolled out to the Supreme Court and Delhi Development Authority.

How to Access?

To get hands-on experience and training, users may visit the demo site, which has been arranged for them to explore the software with test data. They may visit the URL <http://ehrms.gov.in/ehrms> for actual data entry.

Summary

The vision of eHRMS project is to:

- Provide a single source of truth of Human Resource data for all the employees of the Government of India, wherein a robust HR application is not in place.
- Bring in transformational changes in the processes, technology and mindset behind HR related service requests.
- Make the best use of emerging technologies and redefine how HR processes happen in the government organizations.
- Serve as a mode of communication for all the employees of the Government of India to facilitate a more collaborative and cross functional work space.
- Provide a platform for exchange of best practices among government employees across India.
- Enable comprehensive analysis of HR data of government employees to provide actionable insights for policy makers. ■



MADHURI SHARMA

For further information, please contact:

MADHURI SHARMA
Deputy Director General
eHRMS Project Division
NIC HQ, A-Block, CGO Complex
NEW DELHI - 110003

Email: madhuri@nic.in
Phone: 011-24305359