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Information Security Management System for GUVNL

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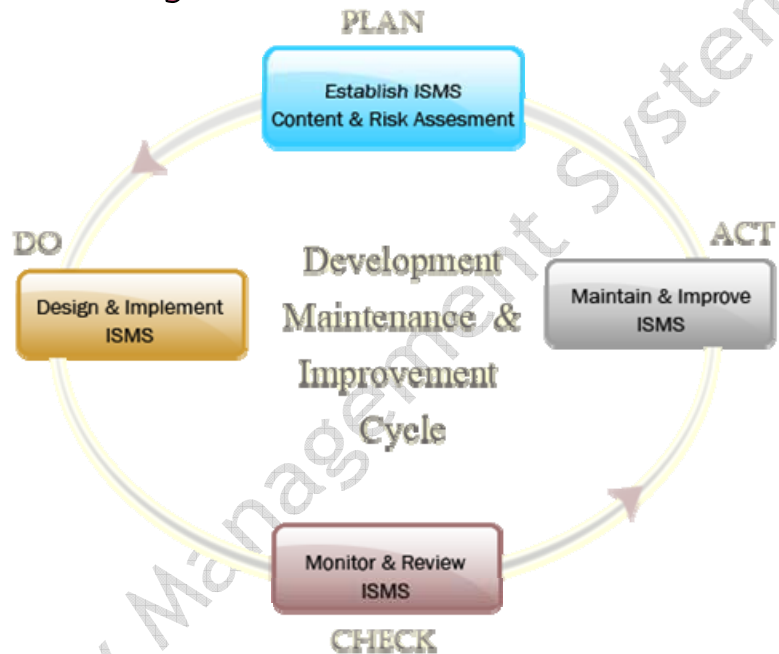
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Courtesy By

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The key concept of Information Security Management System (ISMS) is for an organization to design, implementation and to maintain a coherent suite of processes and systems for effectively managing information accessibility, thus ensuring the confidentiality, integrity and availability of information assets and minimizing information security risks.

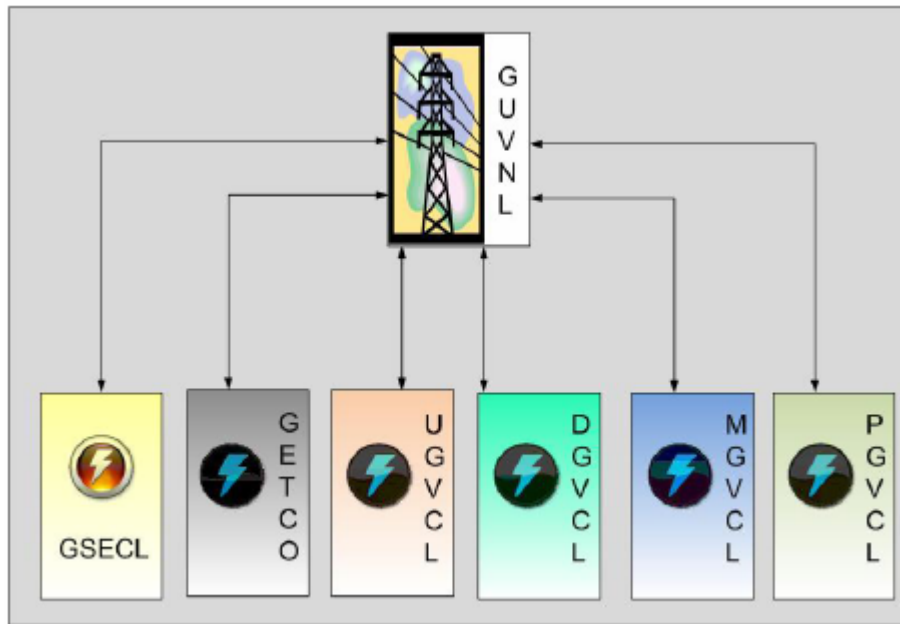
As with all management processes, an Information Security Management System (ISMS) must remain effective and efficient in the long term, adapting to changes in the internal organization and external environment.

Information Security Management System (ISMS) involves providing independent evaluations of an organization's current systems, policies, procedures, standards, measures, and practices for safeguarding electronic information from loss, damage, unintended disclosure or denial of availability. The broadest scope of work includes the assessment of general and application controls.

Introduction:

As a part of Power Reform Process, the Electricity Act, 2003, was passed by the Central Government and Gujarat Electricity Industry (Re-organization & Regulation) Act, 2003, was passed by the Government of Gujarat to restructure the Electricity Industry with an aim to improve efficiency in management and delivery of services to consumers.

Accordingly erstwhile Gujarat Electricity Board (GEB) was reorganized effective from 1st April, 2005 in to Seven Companies with functional responsibilities of Trading, Generation, Transmission and Distribution etc. The Companies incorporated are as under:

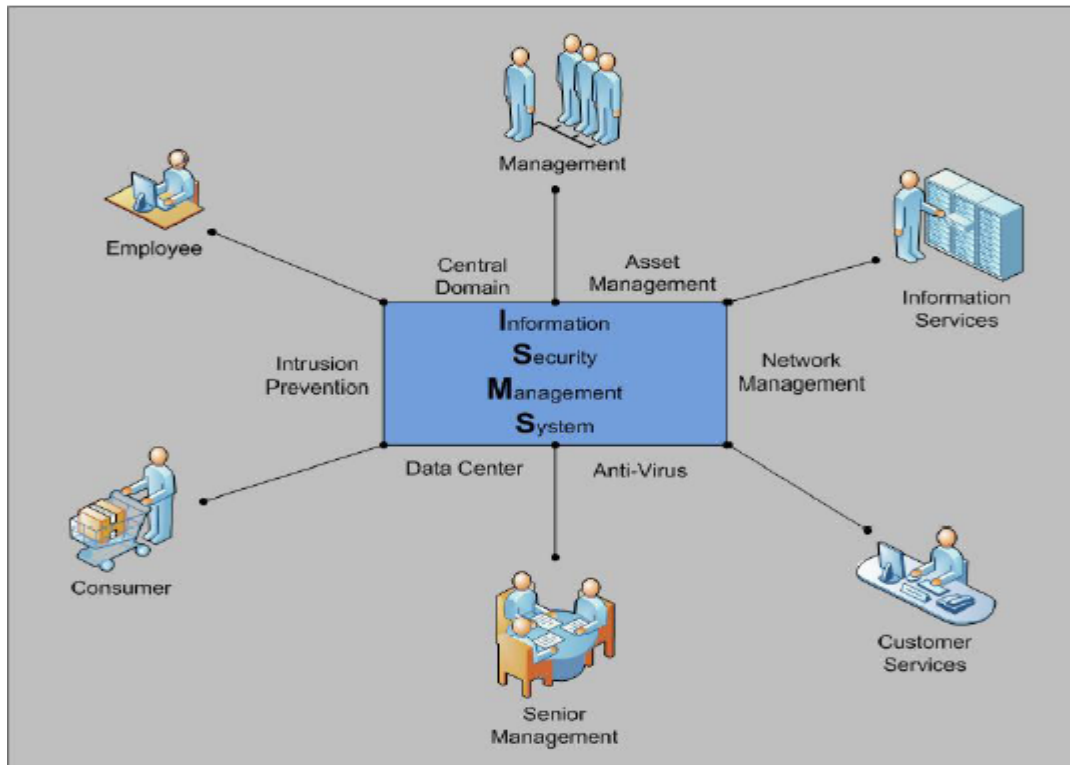


Gujarat Urja Vikas Nigam limited (GUVNL) has implemented an ERP project, “e-Urja” for all its group companies. A Data center has been established to accommodate the cluster of more than 100+ servers and 70 TB of storage. Its implementation started in 2005. A captive network of more than 800 locations dotted across the state has been implemented in 2007.

Gujarat Urja Vikas Nigam limited (GUVNL) has 10000+ desktops across 800 locations in Gujarat State. Online consumer billing has already been implemented. At that time Information Security Management System (ISMS) project was the prime requirement of GUVNL to secure its information and IT assets as well. Keeping up with the successful implementation of Information Security Management System (ISMS) consulting project, GUVNL looked for a trustworthy partner in its efforts to assist it to centralize the control of GUVNL’s IT assets.

(n)Code solutions deployed a team of experienced and certified consultants to execute this project. This team carried out Gap Analysis of existing IT infrastructure of GUVNL to find out security gaps. The recommendations for Risk mitigation of existing security gaps were submitted and presented to GUVNL management in form of Management Report & a presentation was made before management, wherein recommendations of top priority-high risk observations were suggested for implementation of Active Directory Services, Enterprise management system including Desktop, Server & Network Management Solutions, Firewall & Intrusion Detection System (IDS) Solution, Anti-Virus Solutions, etc.

In consonance with its policy to provide best services to its customers and to stay at the forefront of information technology, **Gujarat Urja Vikas Nigam limited (GUVNL)** has setup a world class Data Center at GUVNL Headquarter premises at Baroda. GUVNL employs best in class hardware and software components to meet the critical requirements of business. GUVNL is also having corporate Local Area Network (LAN) at Baroda which is connected to various LANs located at different offices of GUVNL which forms GUVNL WAN (Wide Area Network). BSNL has been awarded contract for revamp of this WAN.



The issues faced at all the locations were that of no centralized user authentication mechanism, the network Performance blockage, Virus and Malicious code attacks, Unauthorized access, Internet bandwidth bottleneck, unavailability of gaining Inventory and tracking of IT assets as well as Network flooding.

Objectives:

1. Server and network resource availability monitoring
2. Software installation and availability monitoring
3. Anti-virus and anti-malware management
4. User's activities monitoring
5. Capacity monitoring
6. Security management
7. Storage management
8. Network capacity and utilization monitoring

Technology:

A team of 27 engineers spread out across the state in 5 teams. All the desktops are migrated into Microsoft Active Directory Structure. 600 GUVNL locations have been covered.

The requirement of the client was met by implementing a host of solutions off the shelf and customizing and integrating them to create a total innovated implementation what we know as ISMS.

- a. Central services improvement
- b. Data center / Server / Network performance improvement
- c. Management view
- d. Reduced network outages and better performance
- e. Reduced cost of Centralized bandwidth requirement
- f. Users get better and faster services
- g. Cost savings on network

The below mentioned technologies were used and have been designed to work together to provide the desired results:

- Microsoft - Active Directory Service, ISA firewalls, MS-SQL Database

At GUVNL, Multiple Hub & Spokes design is implemented. Baroda Head Office is having main hub and spokes to other hubs like Mehsana, Rajkot, Surat, etc. Subsequently Surat is having multiples spokes for locations like Navsari, Valsad, etc. For that Centralized management model has implemented where it is maintaining good security control and policy enforcement. Easy automation of common management tasks from single source of point. Microsoft ISA uses multi-networking model to protect networks against internal and external security threats. ISA Server isolates networks from each other. Only traffic you specifically allow can flow between networks. ISA Server uses chaining to establish a hierarchical connection between arrays of ISA Server. Chaining is an effective means of distributing server load and creating fault tolerance.

- CA – UniCenter, Desktop and Server Management software Suite, Service Desk Solution

An enterprise network has implemented having centralized domain structure and had control over all the users and assets from central location, i.e. from head office at Baroda, it is also handling complains of end users and problems related to assets centrally. There is a centralized database for all the problems and complains raised by the end users. Moreover, GUVNL is having maintenance contract with various vendors like for computers AMC, for Datacenter with AMC, for software developer and likewise. For this contract there is Service Level Agreement with various vendors and it is also track whether SLA terms are being fulfilled or not.

- Trend Micro – Centralized Anti Virus Solution

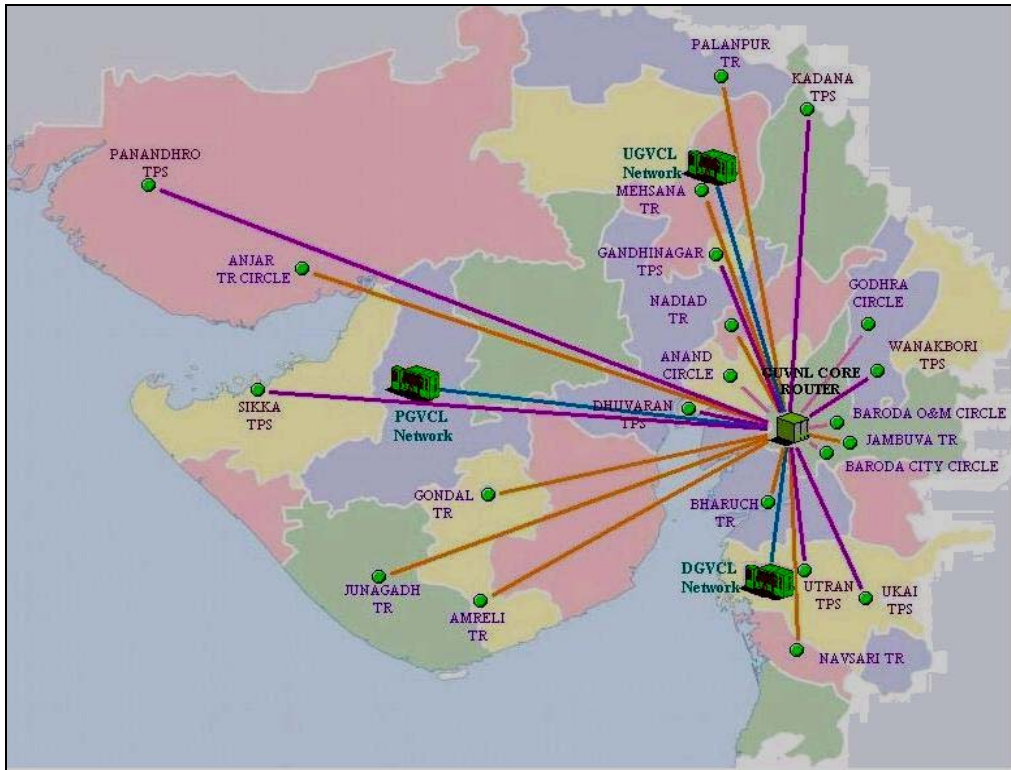
(n)Code team implemented centralized & automatic antivirus solution from Trend Micro by integration and configuration of the products.

- Solar Winds

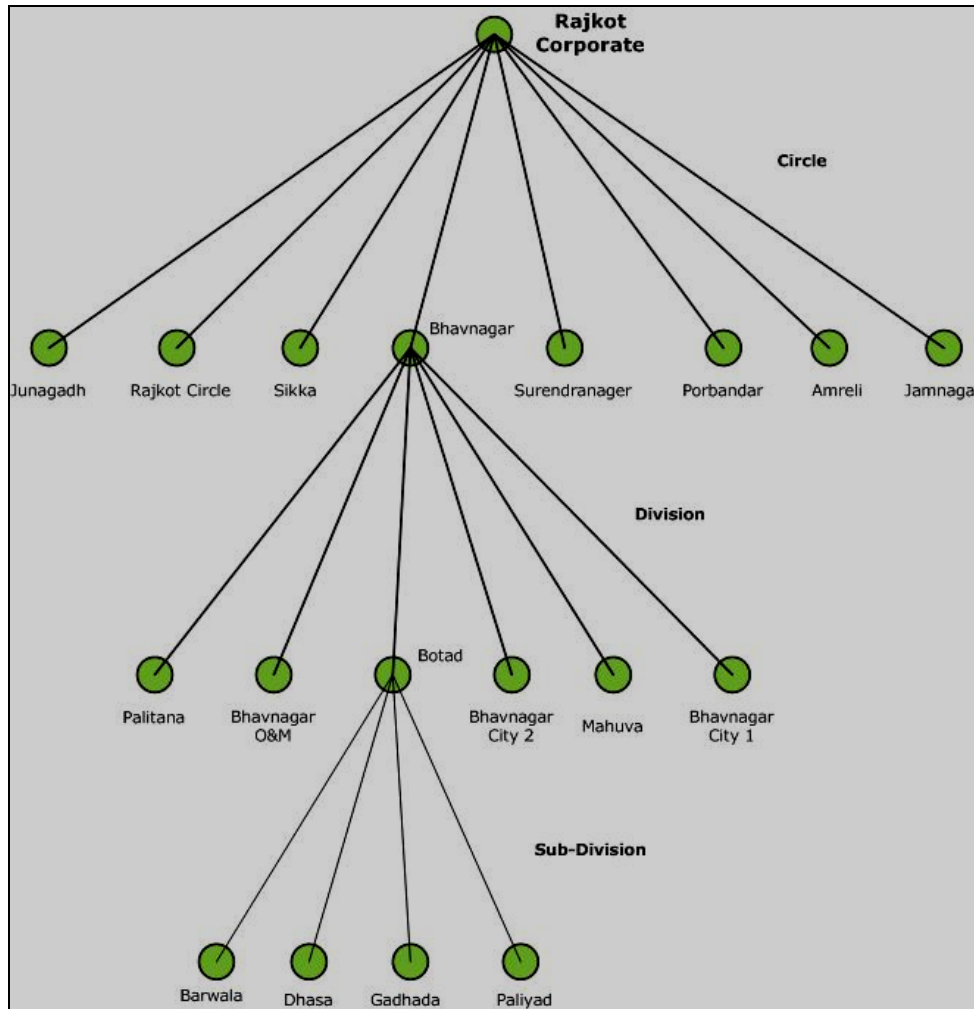
Centralized Network monitoring Software for complete network resource management and monitoring like switches, routers, and wireless access points etc. server performance.

- IBM – Intrusion Detection System & Server Hardware
- Design and deploy policies for network management

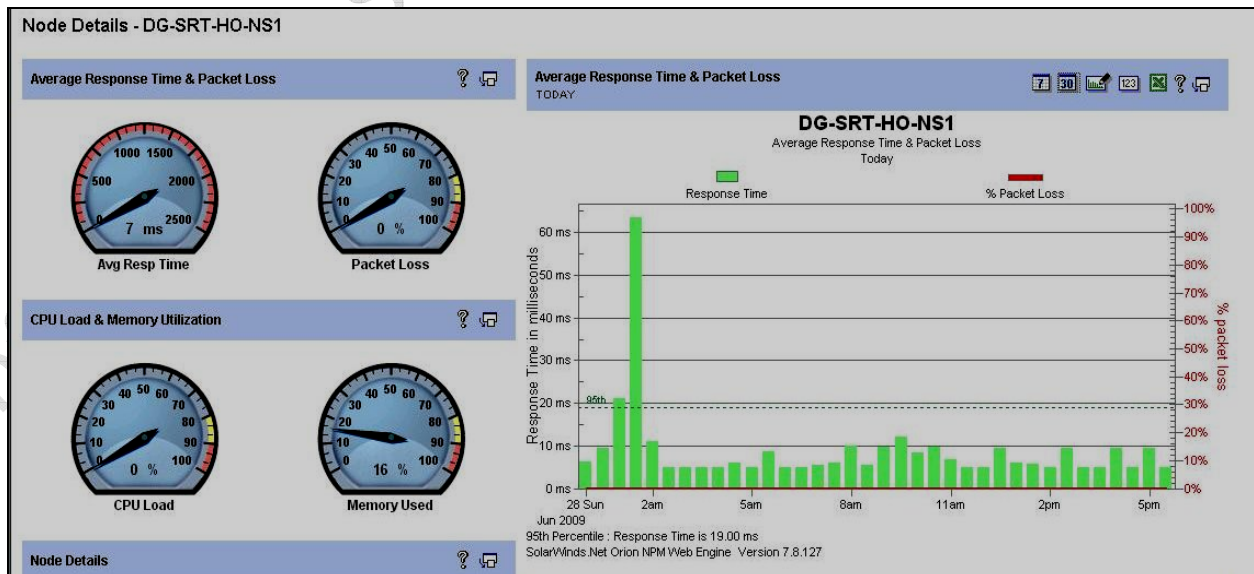
Hierarchical structures of controls in place helps lower network response time and thus speed



Information Security System



Network Monitoring Tool



Project success:

1. Improves the utilization and availability of installed expensive IT resources
2. Allows for focused staff responsibilities & improves productivity
3. Reduces liability and risk due to implemented or enforced policies and procedures, which demonstrate due diligence
4. Facilitates better awareness of IT security throughout the organization
5. Provides competitive advantages and reduction in costs connected with the improvement of process efficiency and the management of security costs
6. Provides the means for information security governance

Advantages for Managed IT Security Service:

(n)Code manages a lot of specialized IT services for GUVNL through this project. With this set-up the following advantages work out for GUVNL:

- GUVNL gets the industry best service and practice for its IT infrastructure
- GUVNL is able to concentrate on its domain expertise and business rather than investing time and effort in a domain which is supporting its business.
- (n)Code being the technology experts ensures best fit technology solutions to maximize returns to GUVNL
- GUVNL saves high amount of money from outsourcing this activity. In-house solution would have meant not only higher expense but also the out-put may not have been as required.
- SLA with (n)Code ensures required performance and output to GUVNL
- GUVNL automatically gets the updated versions of Software

Impact of the project:

- a. Time and cost efficiency improvements in the delivering the above set of services.
 - User efficiency increased as the percentage increase in network speed
 - Clean Network plus hierarchical IDS systems helps optimum network performance
 - Clean and controlled desktop environment helps best desktop performance
 - Fastest patch and other software updates
 - Automated service desk system has increased reduced time to resolution of problem
 - The URL filtering happens at the location Hub locations instead of the main network outlet at the Head office. Thus links between the location hub and primary hubs is utilized in an optimized fashion.
 - Hierarchical network and URL filtering design enables faster network response and a rich user experience.
- b. Time and cost savings for the key stakeholders to avail the above set of services.
 - Increase in productivity of users due to faster access of ERP
 - Problem identification time reduced to seconds / minutes instead of hours
 - Cost of bandwidth reduced due to optimized and controlled usage.
- c. Specific innovative ideas implemented in eGov area; best practices implemented
To achieve the above, GUVNL would have required employing skilled human resource trained on specialized software and hardware. While IT is essential for the business at GUVNL, GUVNL did not wish to engage in specialized IT environment which would require sustained involvement of important company resources.
The solution offered by (n)Code to implement network security across all locations was a comprehensive solution consisting deployment of hardware and software at all locations and coordinating each of the network resource at a centralized location.

- A centralized team of 18 people working 24X7 in three shifts at the Managed Service Site
- 3 people at Baroda Head Office, 2 people each at Rajkot, Surat and Mehsana to manage 71 Servers including 4 Quad-Core CPU Servers for security implementation and monitoring

Project Sustainability:

- a) The project was funded internally by GUVNL. The implementation was done by (n)Code Solutions.
- b) The project is being maintained by a team of engineers across the state with MSS. The total staff consumed is about 15 people including expert backend support from the Head Office.
- c) The disaster recovery center is being planned by GUVNL for all their IT activities. The project design is such that the DR can be setup by replication the Active Directory.

Change Management:

- a) Written descriptions of the management processes and activities necessary to plan, operate and control the ISMS.
- b) Security awareness, training and education records documenting the involvement of all personnel having ISMS responsibilities in appropriate activities (e.g. security awareness programs and security training courses such as new employee security induction/orientation classes).

Project Monitoring:

- a) Monitoring of all resources is carried out using state of the art technical tools like asset management, network monitoring, patch management, content monitoring, assets utilization, performance etc.
- b) Service Desk as a product constantly logs calls and the service call record including resolution time and reports based on varied criteria is in place.
- c) The organization is in the process of upgrading itself to avail of the ISO 27001 Certification. In the process a third party audit mechanism is already envisaged. As of right now auditing is done by the internal GUVNL team.

Achievement:

The Information Security Management System (ISMS) project of Gujarat Urja Vikas Nigam Limited (GUVNL) won the **CSI-Nihilent eGovernance Awards 2008-09** in G2G/G2C Project category. Award presented ceremony was held on 9th October 2009 at Hotel VITS, Pune.



e Governance News

CSI Nihilent eGov Awards 2009-10

The Computer Society of India instituted a series of awards for recognizing the contributions made in the field of e-Governance in the country. These awards have been sponsored by Nihilent Technologies Ltd. The awards are given for recognizing the efforts made in e-Governance area at the State, Department, District and Project level.

The Computer Society of India (CSI) was conducted its 45th Annual National Convention 2010 between 25 – 27 November, in Mumbai. At this convention IT professionals was explored next generation technologies and best practices for adoption in government and industry. Award ceremony was held as part of the Computer Society of India Annual Conference 2010.

Gujarat State had received the following two awards:

- "Gujarat State" for the "Award of Excellence" under State category.
- "Xtended Green Node (XGN)-Gujarat Pollution Control Board under Project category.



(Mr Philip Jose D'Souza, Hon'ble Revenue Minister of Goa was the Chief Guest and gave away the memento to Mr Ravi S Saxena, Addl Chief Secretary, Govt of Gujarat along with Dr Neeta Shah, Director (eGov), Gujarat)



(Mr Hardik Shah, Member Secreatry, Gujarat Pollution Control Board, Gandhinagar had received the Award for XGN project.)



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