

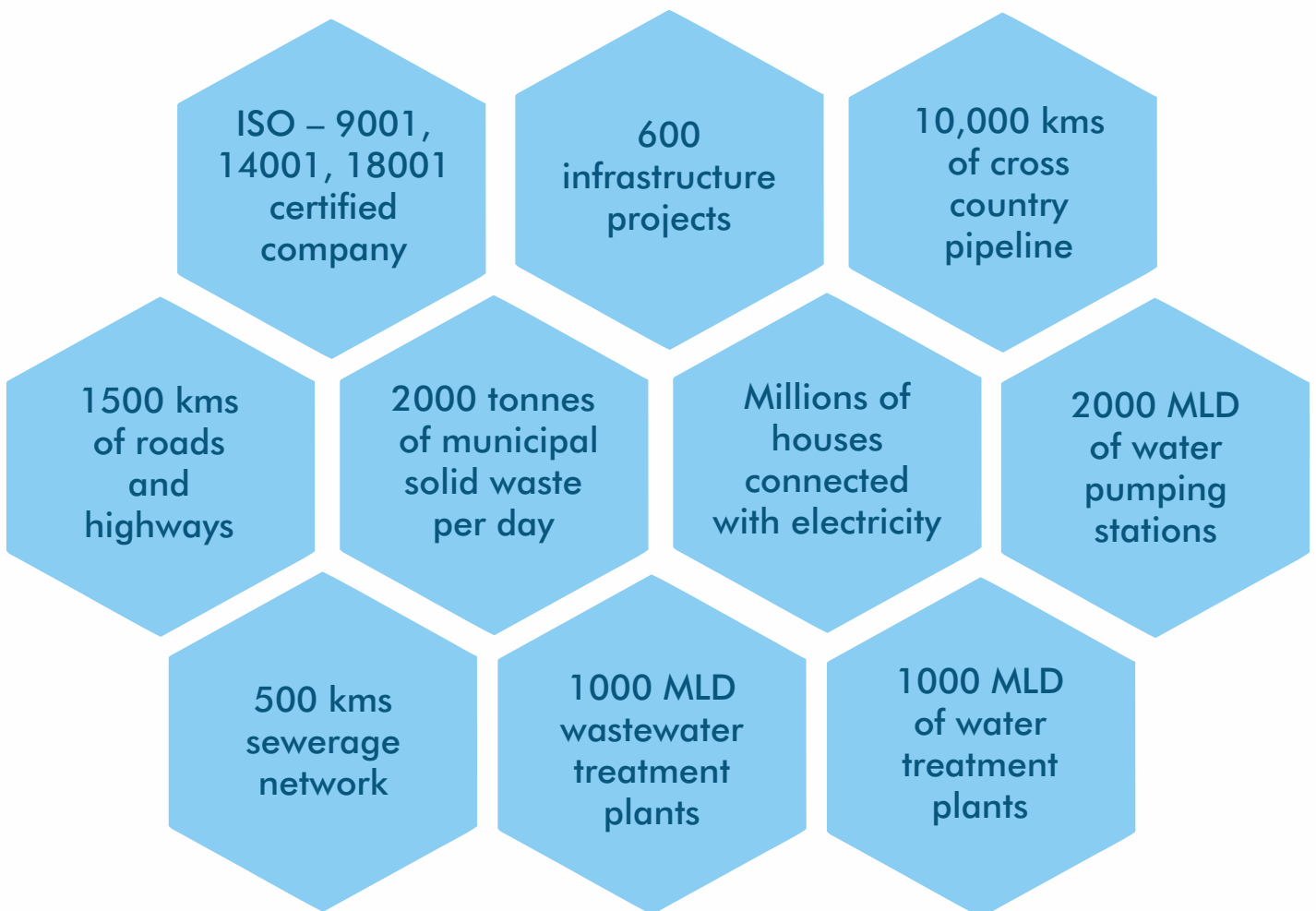


**SMART INFRASTRUCTURE
SMART CITIES**

Thirty five years of **NATION BUILDING**

SPML Infra Limited is India's leading infrastructure development company with focus on sustainable development for smart cities, promoting access of essential services (water, power, sanitation, and waste management) to all.

With 35 years of experience and pan India presence, SPML have executed over 600 projects in water, wastewater, power, roads, and sanitation sectors, thus touching the lives of millions of people with the provision of drinking water facilities, improved sewerage network, better municipal waste management, building roads and highways and lighting up homes. With a number of water supply projects, SPML provide drinking water facilities to millions of urban population everyday. It is the only Indian company featured into World's Top 40 Private Water Companies as per Global Water Intelligence, London.



SMART CITY

The world is increasingly getting smarter and looking for secure, intelligent and smart solutions of resource optimization to improve quality of life. This necessity has led to the development of smart and safe cities with advanced solutions connecting the virtual world to the physical, delivering real-time services that adapt to real-time situations.

With sustainable economic growth and faster development, India is fast becoming an urbanized nation. This rapid urbanization is putting additional pressure on Indian cities in terms of delivering basic services to citizens. The government has approved plans to create 100 smart cities and rejuvenate 500 towns and cities with better facilities under AMRUT scheme. The Prime Minister declared his aim to build cities based on next-generation infrastructure. With dedicated allocation of budget, this sector is bound to create good opportunities in the areas of water management, wastewater management, sanitation, power system, transport & logistic, intelligent traffic management, communication network, telecom infrastructure, smart governance and smart city development.

SPML offers integrated solutions for design, development and management the smart city with optimised usage of resources, enhanced quality of life, connected and transparent public services, better environment. It is also working to create smart utility management system with its indigenously developed integrated management information system (IMIS). With successful track record and sector expertise, SPML is well positioned to be a trusted partner for smart city projects.

Smart Water
Solutions

Smart & Green
Energy

Smart Sanitation
Solutions

Smart
Environment

SMART CITY SOLUTIONS

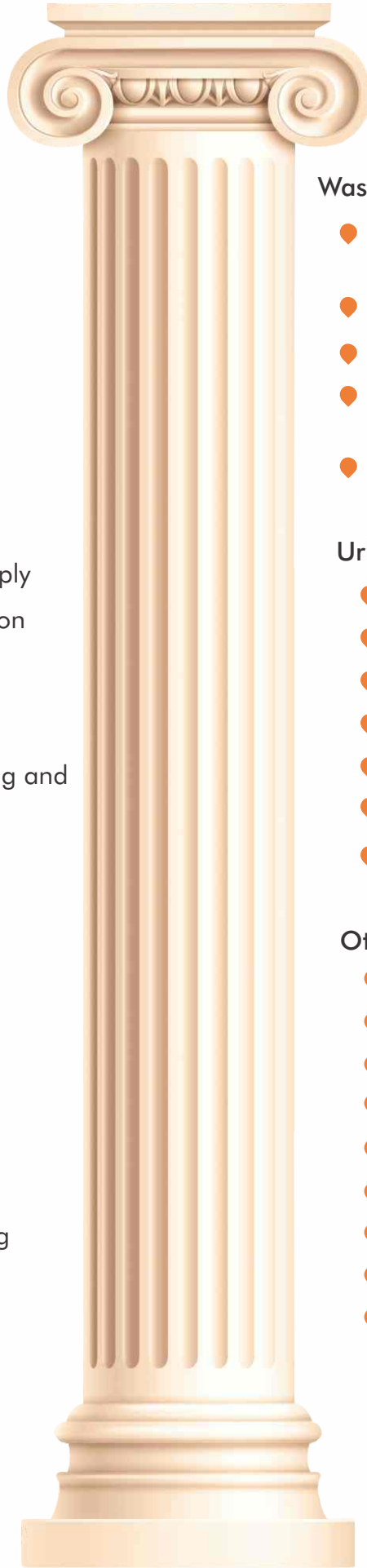
Smart IT
Solutions

Smart
Infrastructure

Smart
Transportation

Smart
Communication

PILLARS OF SMART CITIES



E-Governance & Citizen Services

- Public information
- Grievance redressal
- Electronic service delivery
- Citizen engagement
- Citizens – City's eyes and ears
- Video crime monitoring

Water Management

- Uninterrupted quality water supply
- Leakage identification, prevention & maintenance
- NRW reduction
- Water quality monitoring
- SCADA, water supply monitoring and distribution management
- Smart meters & management
- Smart billing & payment system

Energy Management

- Reliable power supply
- Smart lighting system
- Leakage & loss management
- Smart grid
- Renewable source of energy
- Energy efficient & green building
- Smart meters
- Smart billing & payment system

Waste Management

- Integrated sewage & solid waste management system
- Waste to energy & fuel
- Waste to compost
- Municipal & industrial wastewater to be treated and reused
- Recycling & reuse of C&D waste

Urban Mobility

- Smart transport system
- Intelligent traffic management
- Smart parking
- Integrated multi-modal transport
- Passenger information system
- Command & control centre
- GIS & vehicle tracking

Others

- Integrated control centre
- Reliable & adequate ICT services
- Smart homes
- Smart security solutions
- Quality educational facilities
- Healthcare facilities
- Skill development centres
- Integrated utility services
- Emergency management system

SMART CITY SOLUTION

SPML Infra has executed a number of projects to create smart infrastructure for water, wastewater treatment & reuse, integrated sewerage network, power transmission & distribution, trenchless rehabilitation of pipelines, efficient waste management and technological solutions for utilities in India.

SPML SMART CITY PROJECT

Project:	Vikram Udyogpuri Industrial Township
Client:	Delhi Mumbai Industrial Corridor Development Corporation (DMICDC)

SPML is developing a Smart City named as, "Vikram Udyogpuri" in Ujjain, Madhya Pradesh. It is a Delhi Mumbai Industrial Corridor (DMIC) project, being developed as a global manufacturing and investment destination. This smart city will have 24X7 water supply system, complete sewerage network, storm water drainage system, solid waste management system, internal and external roads of 4 and 6 lanes, power transmission and distribution system, domestic gas distribution system, street lighting, CCTV and SCADA system, safety and security system, information and communication technology (ICT) network, civil infrastructure including centralized command & control centre with peripheral boundary walls along with 5 years of operation & maintenance. This is first of its kind of smart city project which will have all smart utilities connected with technology for seamless services.

Scope of Services

Water Infrastructure: Water Treatment Plant; Pumping Station; Clear water and recycled water reservoirs and transmission network

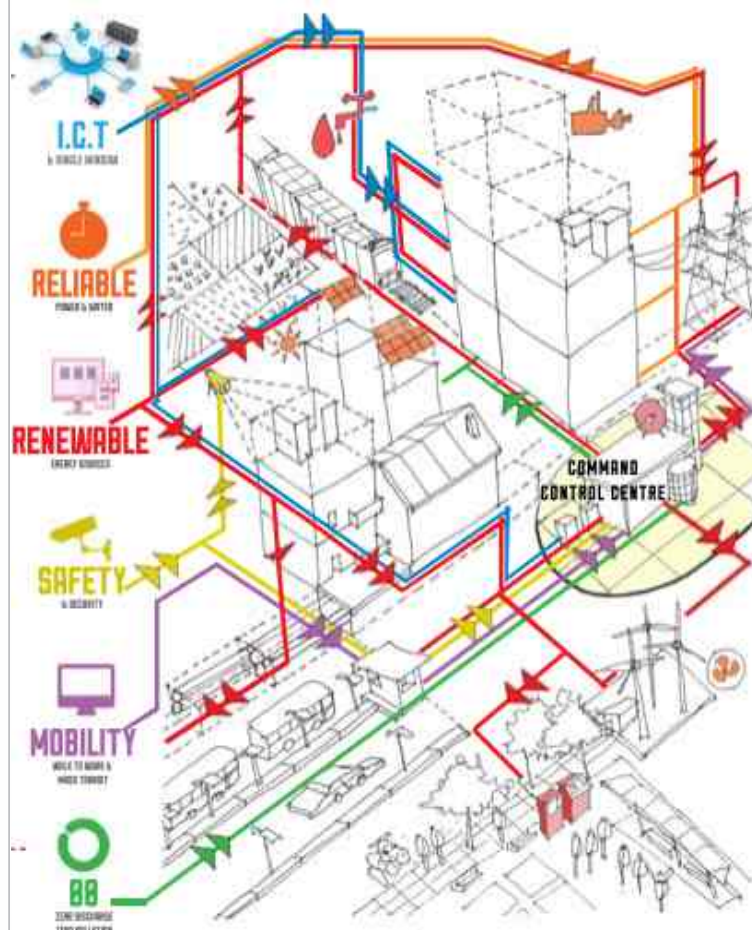
Wastewater Infrastructure: Sewage & tertiary treatment plant; Pumping station; Wastewater collection & treated water distribution system; Storm water drainage system

Power Infrastructure: Compact substations; Street lighting with LED light fixtures; High mast with panel; LT cabling

Civil Infrastructure: Roads; Bridges; Traffic management system; Domestic gas distribution system; Boundary wall

Sanitation: Solid waste management system; Compost plant; Transportation vehicles; Land fill and landscaping

Information & Communication Technology: ICT, SCADA and PLC; Centralized command centre; Security systems; CCTV network; Fibre optic network



SMART WATER MANAGEMENT

Making Every Drop Count

Smart water management is the combination of smart hardware, smart solutions, and smart services integrated together to minimize wastage and optimize the utilization. Intelligent use of information technology and analytics can be leveraged to deliver improved outcomes across the water management lifecycle.

SPML has rich experience in executing smart water projects through innovative technologies by providing excellent services from design, construction, commissioning to operation & maintenance and currently executing several urban water supply projects in different cities of India.

Scope of Services

- Water transmission, treatment, distribution and management
- Pumping Stations
- Pipelines
- Storage Reservoirs (Elevated/Ground/Underground)
- Integrated Management Information System (IMIS)
- Instrumentation, PLC & SCADA
- O & M of water supply schemes



SMART WASTEWATER MANAGEMENT

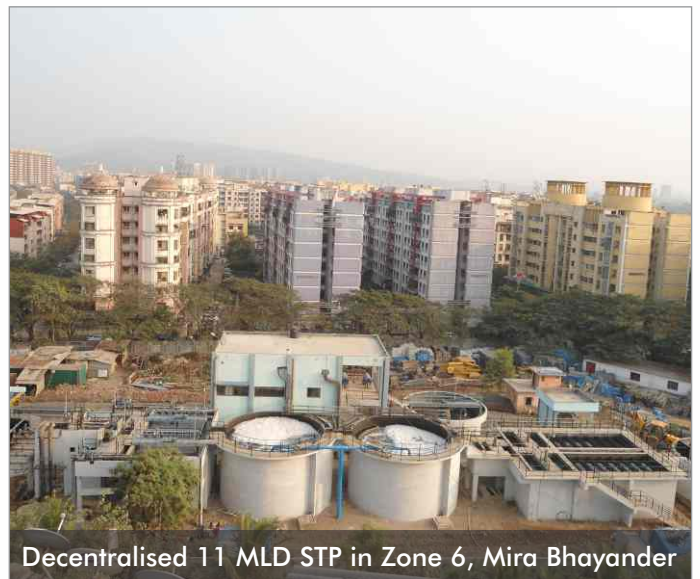
Solutions for Water Reuse

SPML has established a leading position in design to application of technology, construction to management and operation of sewage treatment plants, common effluent treatment plants, tertiary and water reuse treatment plants, sludge treatment with gas production and power generation facility.

Integrated and decentralized sewerage network is essential for smart city development. SPML has proven capabilities in design and construction of integrated sewerage system. The Mira Bhayander project in Maharashtra is designed completely as a decentralized system having separate collection and treatment facilities in 10 zones across the city. This is one of India's largest and first comprehensive underground sewerage system with 113 kilometres of sewer lines, 10 pumping stations, 10 sewage treatment plant with total capacity of 115 MLD having advanced MBBR treatment technology with high level treatment efficiency. This integrated sewerage system is fully automated with zero manual intervention and can be easily expanded, retrofitted for capacity enhancement.

Scope of Services

- Sewage Treatment Plant
- Effluent Treatment Plant
- Tertiary Treatment Plant
- Sewage Pumping Station
- Underground Drainage System
- Storm Water Drainage
- Sewer Rehabilitation



Decentralised 11 MLD STP in Zone 6, Mira Bhayander



1350 cum Gas Holder at STP, Kanpur



1140 Kw Power Generation Unit, Kanpur

SMART WASTE MANAGEMENT

Integrated Solution for Waste to Resource

Effective waste management is essential to control deteriorating environmental situation, increasing water and soil pollution and maintaining good sanitation and public health. With expertise and experience to create valuable changes, SPML offers integrated waste management solutions in compliance with the CPHEEO & MSW Rules for the development of smart and AMRUT cities. SPML currently manages over a million tonnes of waste per year through industrially recognized processes.

SPML is also executing a project under Swachh Bharat Mission to track and monitor waste transportation in 640 cities of India. The scope comprises development of Information and Communications Technology (ICT) Platform - eSBM for effective reporting, monitoring and control of individual municipalities and on-ground workers through innovative web applications. The ICT platform will enable the cities to monitor waste transportation fleet through GPS based vehicle tracking system, provide MIS reports for waste collection and transportation and notify ULBs about vehicle breakdown and maintenance thereby ensuring a higher level of transparency in municipal administration.

Scope of Services

- ◆ Door-to-door collection of municipal solid waste
- ◆ Segregation of waste
- ◆ Transportation of waste to processing facility/landfill
- ◆ Design and construction of waste processing facilities – Composting / Refuse Drive Fuel
- ◆ Waste to resource; recycling, composting, waste to energy
- ◆ Design and construction of scientific landfills (SLF)
- ◆ Design and construction of inert processing facilities - Eco Bricks/Paver Blocks
- ◆ Scientific closure of landfill
- ◆ ICT solutions for efficient waste management



SMART ENERGY MANAGEMENT

Solutions for Brighter Future

Integrated and smart energy management with optimizing generation and distribution, demand side management and energy efficiency are essential to improve the power situation in the country.

With comprehensive domain knowledge, continuous innovation and national experience, SPML is providing turnkey solutions for power generation, high voltage transmission substations, efficient transmission & city distribution solutions to utilities and consumers. SPML also provides clean energy solutions by spearheading hydro, solar and wind power generation projects and committed to nation's power development program.

Scope of Services

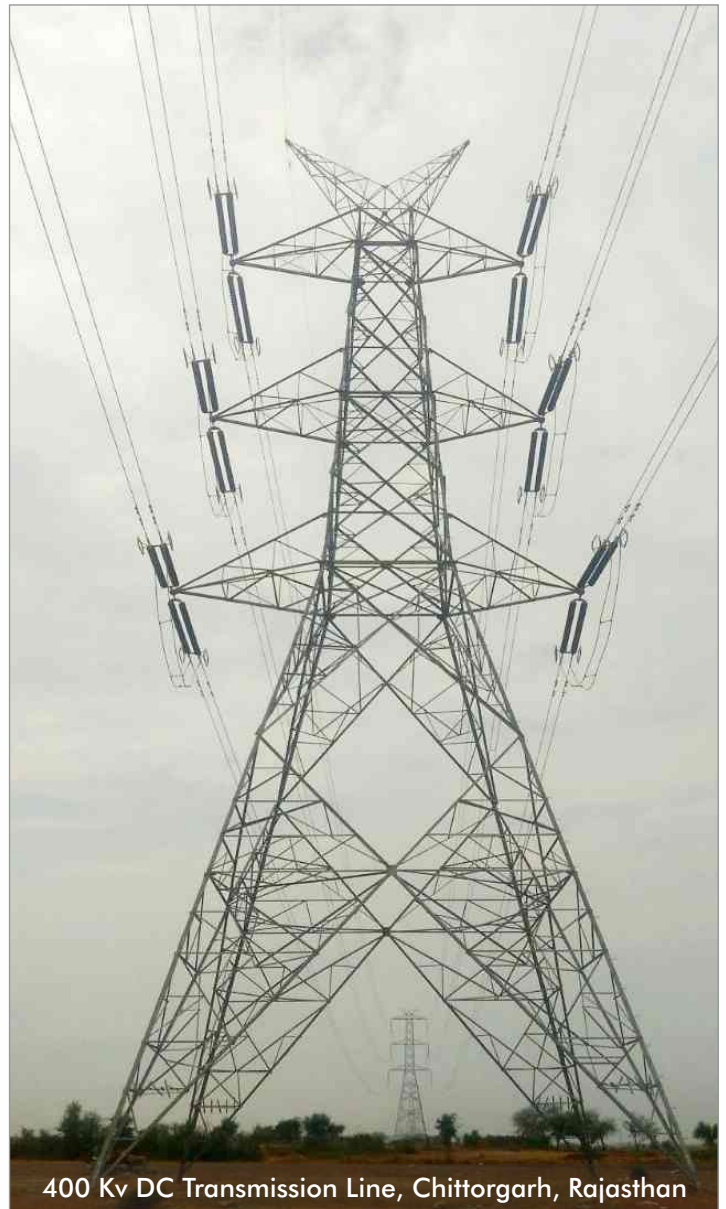
- Smart Grid
- Substations
- Transmission Network
- City Distribution System
- Smart Metering
- Asset Indexing on Cloud
- Street Lighting
- Renewable Energy – Solar/Wind/Hydro



Rooftop Solar Power Plant at SPML Head Office, Gurgaon



220 Kv Substation at Bengaluru



400 Kv DC Transmission Line, Chittorgarh, Rajasthan

SMART GRID

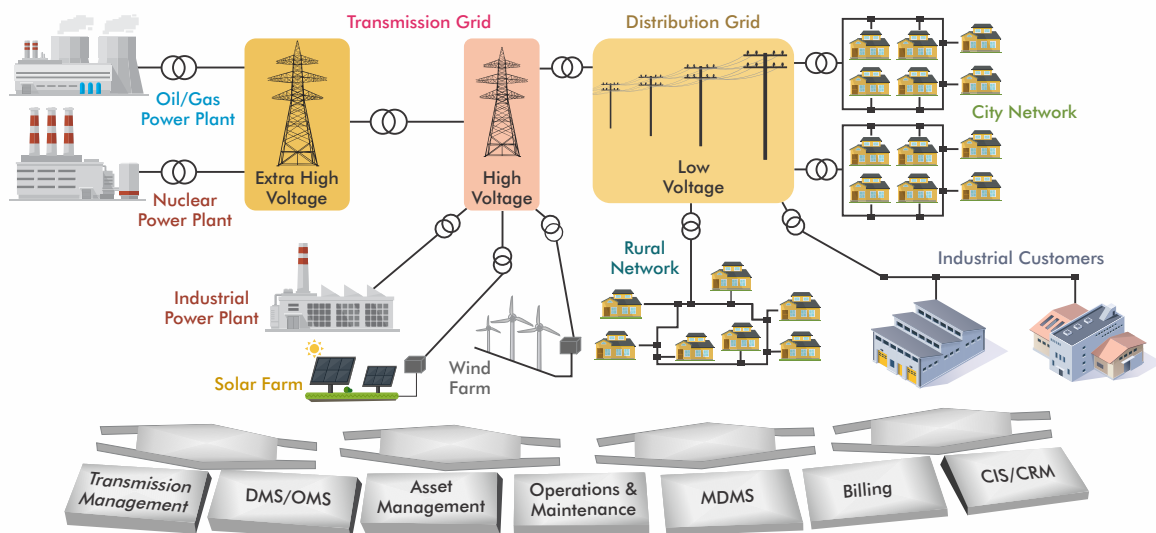
The Future of Power Systems

Smart Grid facilitates efficient and reliable delivery system from source to user through integration of energy sources, smart transmission & distribution and brings the efficiency and sustainability in meeting the growing electricity demand with reliability and quality.

Smart Grid also enables real time monitoring and control of power system as well as helps in reduction of AT&C losses, demand side management, power quality management, outage management, smart home energy system etc. Smart Grid will act as a backbone infrastructure to enable new business models like smart city, electric vehicles, smart communities apart from more resilient and efficient energy system and tariff structures. SPML is taking lead for smart grid technology to improve the power supply value chain to ensure customer inclusion in utility operations, an essential element for the development of smart cities.

Benefits

- Monitoring and controlling delivery of power to the consumer in real-time, improving efficiency and encouraging conservation
- Continuous power quality monitoring, active management of all distribution system elements
- Outage identification and management
- Improved planning of infrastructure construction and maintenance schedules
- Real time, in-field management of maintenance workers and inspectors
- Carbon emissions management
- "Customer Portals" to increase customer usage, awareness, and online tracking of energy use
- Integration of alternative energy sources and co-generation programs
- Enhanced plant security
- Leverage of existing communications investment such as substation and fibre infrastructure



Real Time Smart Grid Systems

SMART METERING & SCADA SOLUTIONS

Rapid urbanization and rising demand for 24x7 power, water and gas supply requires Integrated Smart Metering system like Automatic Meter Reading (AMR) and Advanced Metering Infrastructure (AMI). The integration of meters with advance communication technology of automatically collecting real time consumption, diagnostic and status data from meters and transferring it to a central database for analyzing, troubleshooting and billing, will reduce the dependence on meter readers and saving on expense of periodic trips to each physical location. This advanced metering system enables accurate billing based on actual consumption rather than on estimates on past or predicted consumption. The timely information coupled with analysis can help both utility providers and customers' better control on their consumptions and billing thus reducing the complaints considerably.

SCADA SOLUTIONS – WATER, POWER, GAS

SPML provides SCADA solutions based on both PLC and IoT with leading original equipment manufacturer (OEMs). With experienced design and delivery team, it has implemented many projects in water and power sector. The turnkey solutions in SCADA along with other technology like meters and software applications for utility under single platform are essential for smart operation & management of infrastructure.

Scope of Services

- AMR Meter
- AMI Meter
- Non-AMR Meter
- GPRS Bulk Supply Meter
- Billing, Collection
- Scada Solutions
- SCADA & PLC Solutions
- IoT Solutions
- Operation & Maintenance



Electronic Power Meter



Bulk Water Supply Meter



Domestic Water Supply Meter



AMI Metering Solutions

SMART INFRASTRUCTURE

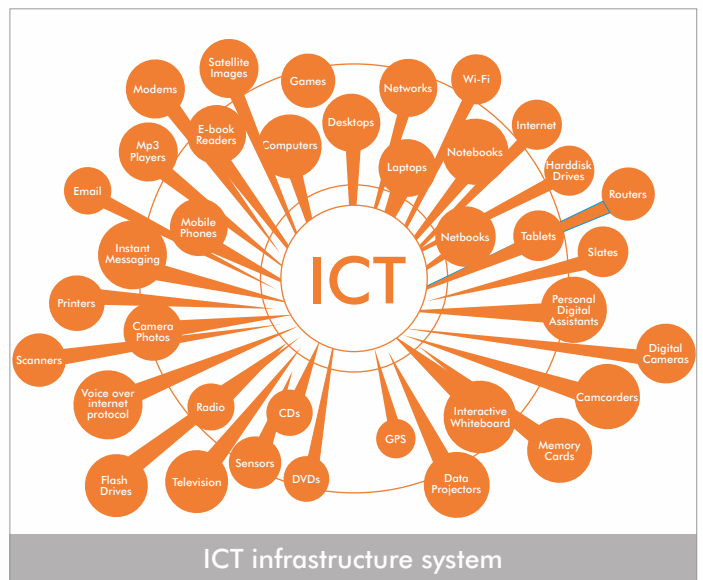
Solutions for Future

SPML is a leading player in the dynamic and sustainable growth of urban infrastructure, smart cities development and management with proven expertise and experience to offer smart solutions on affordable and scalable parameters.

SPML provides engineering, infrastructure and Information and Communications Technology (ICT) solutions to provide unified communication that has become keystone of everyday life due to high level of internet availability with smart phones. Information and Communication Technology can contribute to universal access to information, delivery of quality services and more efficient utility management, governance and administration.

Scope of Services:

- Roads, Highways, Bridges
- Metro Rail Infrastructure
- Information & Communication Technology
- Control & Command Centre
- Smart Building
- Security System
- Environment Management

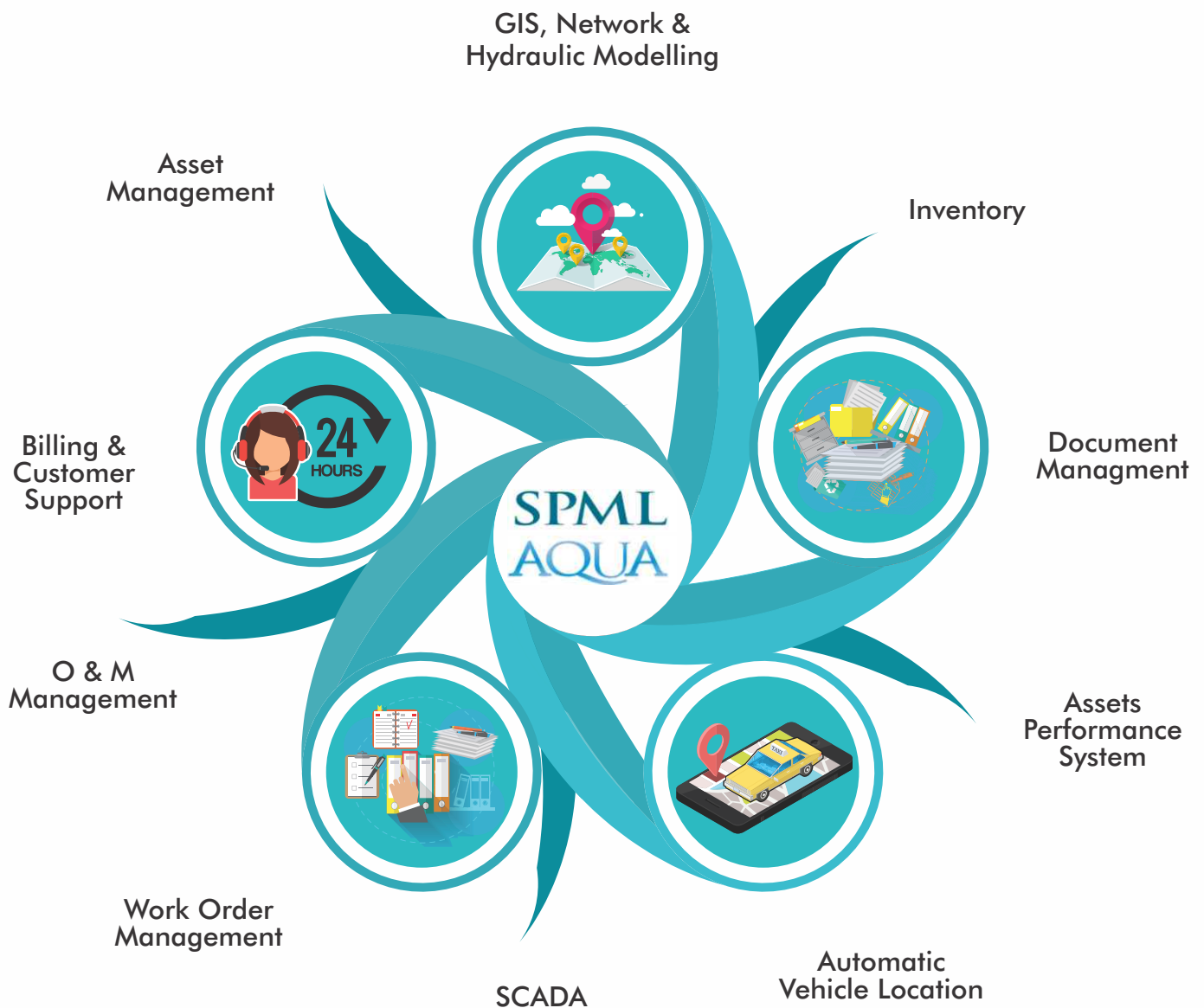


SMART TECHNOLOGY

Integrated Management Information System for Utilities

SPML AQUA

The integrated management information system (IMIS) is specially designed and indigenously developed by SPML for smart utility management as per Indian requirements and working conditions keeping in view our Hon'ble Prime Minister's ambitious initiative of Make in India program. It is highly scalable and capable of handling the Metering, Billing, CRM, Network Analysis, Demand Forecasting & Management, Asset and Inventory Management, Business Intelligence, and Operation & Maintenance of the entire network. After implementing this system, the water loss has been considerably reduced and revenue increased significantly with better consumer services of water utilities in Delhi and Karnataka.



CERTIFICATION & AWARDS

- ISO 9001-2008; ISO 14001-2004; OHSAS 18001-2007 Certification
- NetApp Innovation Award 2016 for Integrated Management Information System – NetApp
- Dataquest Business Technology Awards 2016 for Unified Communications – Cyber Media
- CBIP Award 2016 for Optimum and Efficient Utilization of Water Resources - CBIP
- Digitizing India Awards 2015 as Smart City Solution Provider – NDTV-CISCO
- ICT for Development Award 2015 for Innovative Solutions for Smart Cities - ASSOCHAM
- Construction World Awards 2015 as Top Challengers - Asapp Media Group
- Construction Week India Award 2015 for Infrastructure Company of the Year – ITP Publishing Group



OPERATION NETWORK

- ★ Corporate Office
- Regional Office
- Project Office
- ⬡ Operation Network





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