



## GIS enabled Urban ERP, TDC

Tema Development Corporation  
Government of Ghana

**Ghana's largest urban development body connects diverse offices and departments, aligns business processes, cut costs and time, and satisfies internal and external stakeholders through a GIS enabled ERP implementation from SRIT.**

Tema Development Corporation is a government organization set up in 1952 by an Act of Parliament with the sole responsibility to plan and develop public land for various land cases and also manage the townships that had been created to provide accommodation to those that would be engaged in socio economic initiatives of the Government of Ghana.

The corporation was given a 125 year lease term to manage this land area known as the Tema Acquisition Area. The corporation since its birth has gone through many experiences involving structural and legislative changes that have cumulatively given it a new lease of life. The Corporation's major activities until 1991 had been the construction of houses under the House Ownership Scheme and the management of rental units.

Currently, the Corporation's functions under LI 1468 of 1989 and its main functions are (a) to plan, layout and develop the Tema Acquisition Area, (b) construct roads and public buildings, (c) prepare and execute housing schemes, (d) develop industrial and commercial sites, and (e) provide public utilities. The Corporation therefore provides opportunity to investors, individuals and companies to have easy access to serviced land with secured tenure in furtherance of the Ghana Government's Gateway Programme.

## CASE HIGHLIGHTS

<b>Organization</b> <ul style="list-style-type: none"> <li>Set up in 1952</li> <li>Develops real estate in the Tema region of Ghana</li> <li>Constructs, sells, and leases residential and commercial properties</li> <li>Regulates township development</li> </ul>	<b>Objectives</b> <ul style="list-style-type: none"> <li>Create and manage unique and sustainable urban settlements to meet stakeholder expectations</li> <li>To be the leader in the real estate business in Ghana by 2016</li> <li>Aim to go global</li> </ul>
<b>Challenges</b> <ul style="list-style-type: none"> <li>Huge paper document repository</li> <li>Multiple offices spread across the region</li> <li>Manual, people dependent processes</li> <li>Long historical chain of legacy real estate transactions like conveyance, mortgaging, etc.</li> </ul>	<b>Methodology</b> <ul style="list-style-type: none"> <li>Business Process Analysis</li> <li>Global ICT Tendering</li> <li>Vendor selection</li> <li>Solution configuration</li> <li>HW &amp; SW Deployment</li> <li>User Training</li> <li>Master Data Migration</li> <li>Transaction Data Entry</li> <li>Go Live!</li> </ul>
<b>Solution</b> <ul style="list-style-type: none"> <li>Fully web based solution</li> <li>Urban Governance ERP (eCivic) integrated with web based GIS solution</li> <li>CAD based Building Permit Approval (PlanPermit BPAS), BPM, Collaboration and Document Management</li> <li>On premise and cloud</li> </ul>	<b>Why SRIT</b> <ul style="list-style-type: none"> <li>Only solution to address the wide range of requirements</li> <li>E Governance and construction domain experience</li> <li>Product Developer for real estate business</li> <li>Focused approach</li> <li>Local support &amp; presence</li> </ul>
<b>Technology Stack</b> <ul style="list-style-type: none"> <li>Microsoft technology components</li> <li>MS SQL as RDBMS</li> <li>Dot Net web platform</li> <li>AutoCAD</li> <li>Open GIS</li> <li>Dell Blade Servers</li> <li>Utility HW like AVR, Online UPS, Scanners</li> </ul>	<b>Value to Client</b> <ul style="list-style-type: none"> <li>Eliminates tons of paper documents</li> <li>Reduce process cycle time by more than 50%</li> <li>100% transparency of operations and decisions</li> <li>Real time MIS and secure 24 x 7 access to files</li> <li>Supervisory effort reduced by 80%</li> </ul>

**“Through this ERP project, I expect the Tema Development Corporation can take advantage of ICT to improve its services to the public.”**

Mr. Joseph Abbey,  
Managing Director, Client Organization

**“The center is not only looking at TDC to maintain its position as leader in the real estate business but even more to position it in a manner that will make it tops in Africa and globally competitive.”**

Ms. Dorothy Gordon, Director General,  
Kofi Annan Centre for ICT (Local Project Partner)

## FRAGMENTED, PAPER BASED ORGANIZATION

Considering more than 470 staff members operating from about 20 offices, and the fact that there are nine major departments and several sub departments, the corporation has a complex web of business activities within the organization.

Since its prime business identity is that of a real estate developer and property manager, serving its clients well and quickly is a prime objective. Because of the paper based record keeping, information retrieval becomes a tiresome and time-taking affair.

The same also affects in timely and proper billing to clients and tracking their payables.

Control systems and processes are paper based and manually supervised resulting in loss of valuable time and available manpower.

Since building construction is a capital intensive program, ensuring right level of project cost and schedule estimation determine the profitability of your business, as you cannot sell beyond prevailing market rates for real estate products.

Being a government organization, it's also important for the corporation that every decision and its related collaboration is traceable. Often, this results in delay of completing administrative formalities involving the corporation and its partners.

## AIMING PAN-AFRICAN LEADERSHIP

Being a dominant real estate player in the region with a good rate of business growth, the corporation has a vision to grow into a pan-African powerhouse. If the success achieved so far can be replicated in other regions, it's quite an achievable dream.

Again, this requires that the corporation transform itself into a very agile organization, who could serve a large geographical region managing diverse activities involved in construction: building design, civil and structural engineering, project management, sales, lease, client relationships, asset and resource procurement, people management, back office operations, etc.

As part of the growth plan, the ICT upgrade project was launched by the management.

## IDENTIFYING THE RIGHT SOLUTION

To identify the solution, the corporation started with a study of internal processes, with the help of Kofi Annan Centre of Excellence for ICT. The consulting team from Kofi Annan Center identified a baseline set of business processes, and compiled a list of 197 high level requirements that was needed to be met. An International Competitive Tender was floated in early 2012, against which more than 12 major enterprise software product players, including SAP and Microsoft, submitted their bids. After several rounds of analysis and evaluations, SRIT partner was awarded the contact to implement the ICT upgrade project.

SRIT partner had presented the solution compiled from a product range involving ERP, GIS, AutoCAD based Building Plan Approval system, BPM Suite, Document Management, and Collaboration Management suites.

SRIT deployed an onsite domain consulting team to liaison with the ICT Upgrade project team to detail the low level requirements, and establish the scope for the solution configuration.

## ENSURING PROPER ADOPTION

SRIT senior management team had extensive interactions with the ICT Upgrade team to plan the project execution. It was decided that the project would be done in 7 phases: Plan, Analyze, Build, Train, Deploy, Support, and Close.

A project plan was created to timescape the detailed activities to be performed as part of the project by SRIT team, the ICT upgrade team, as well as the corporation stakeholders. As per the plan, some additional pre requisite activities were also identified: notable among them being basic computer training for some of the intended trainees.

SRIT deployed the solution and completed several rounds of training as on date. Activities involving master data migration and transaction data entry are in various stages of progress.

## INSTITUTING ORGANIZATIONAL DISCIPLINE

Though not intended as the prime objective of the ICT upgrade project, the solution deployment resulted in standardization of organizational processes, through internal stakeholder dialogue, under the aegis of the discussions on process standardization facilitated by SRIT.

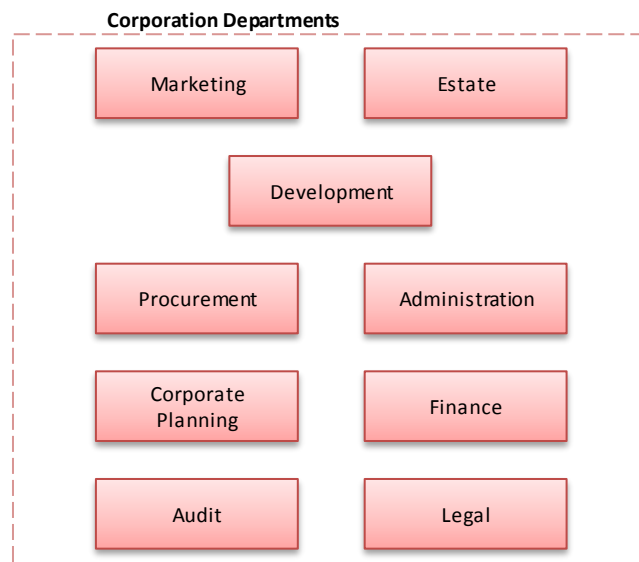
Through a business process re-engineering [BPRE] exercise, this process streamlining has also empowered the corporation to update and refine any particular process chain across the organization quite easily by configuring the ERP system.

## REAPING RICH BUSINESS BENEFITS

Through the SRIT solution, the corporation stands to gain a plethora of benefits that translates to tangible business value and improve its financial performance indicators. Key among them are:

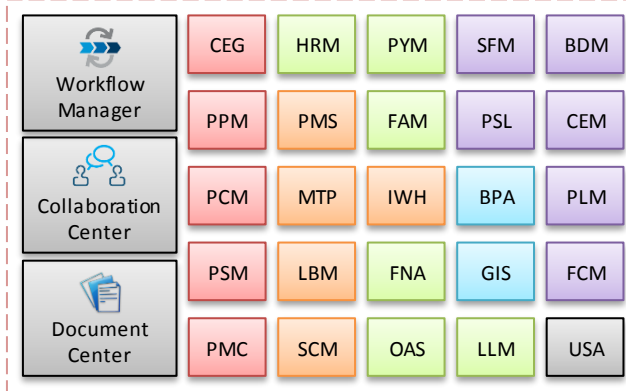
- Optimize project execution cost
- Control over actual consumption of resources
- Increase Average Revenue per Transaction.
- Reduce Revenue Leakage
- Plan and monitor cash outflows and inflows
- Maximize conversion from enquiry to booking
- Less time spent to collect project information from sites
- Identify project cost, and schedule slippages early
- Faster decision making through real time information
- Less unpredictability of working capital requirements
- Reduced delays and lack of clarity - in receivables collection
- Avoid schedule delays within Resource Request to Fulfillment Cycle affecting project execution
- Check resource wastage and idling
- Transparency in managing of business activities and decisions

**Comprehensive solution including ERP, GIS, and BPM spanning the process coverage of all departments**



**23 modules + 5 sub products to address business needs of all 9 departments of the Corporation**

### SRIT Solution Component Structure



### LEGEND: SRIT Solution Components

CEG: Cost Engineering	FNA: Financial Accounting
PPM: Project Portfolio Management	OAS: Office Administrative Services
PCM: Project Cost Management	SFM: Sales Force Management
PSM: Project Schedule Management	PSL: Property Sales Management
PMC: Project Monitoring and Control	BPA: Building Permit Approval
HRM: Human Resource Management	GIS: Geographic Information System
PMS: Plant and Machinery Services	LLM: Land and Legal Management
MTP: Material Procurement	BDM: Business Development
LBM: Labor Management	CEM: Client Enquiry Management
SCM: Sub Contractor Management	PLM: Property Lease Management
PYM: Payroll Management	FCM: Facility Management
FAM: Fixed Assets Management	USA: User and System Administration
IWH: Inventory and Warehousing	BPM: Business Process Management