

A brief Summary of Enterprise Asset Management System (EAMS)

The Ministry of Works (MOW) faces challenges in constructing, supervising, managing and maintaining large numbers of public infrastructure assets in the Kingdom. With huge infrastructural development planned, the public infrastructure base in the Kingdom is set to grow rapidly in near future resulting in further increasing the challenges of maintenance and management of infrastructure assets. To meet the requirements of rapid growth of infrastructure assets and services, and manage the growing work load, it is imperative that MOW should be more effective and efficient in managing and maintaining the public infrastructure assets. The challenges for MOW to meet the infrastructure assets management and maintenance needs are summarized as following:

1. Manual business processes relating to infrastructure assets life cycle management and maintenance management. Need for more effective methods and tools for public infrastructure asset lifecycle management and maintenance management.
2. Need for enhancing the operating life, performance and services of the public infrastructure assets.
3. Optimization of capital (construction) and recurrent (maintenance) expenditures on infrastructure assets.
4. Move towards predictive, preventative and pro-active modes of maintenance of infrastructure assets, as opposed to reactive maintenance modes.
5. More realistic predictions on capital and recurrent funding needs for constructing and maintaining infrastructure assets.
6. Significant delays, long wait times and re-work in accessing information relating to infrastructure assets due to lack of integrated asset information systems. This leads to slackness in the overall business cycles.
7. Non-availability of accurate information on investments, expenditures, current values and conditions of infrastructure assets; and absence of a consolidated repository of all information through the lifecycle of an infrastructure asset. This results in significant routine communication within and across the MOW directorates resulting in longer project cycles.
8. Non-availability of reports and performance statistics on MOW infrastructure assets. This results in great challenges in management tracking for accountability and determining audit trails on public infrastructure assets. This also constrains availability of reliable statistics and information on infrastructure assets that is required for Public-Private-Partnership (PPP) initiative and for securing external funding.
9. Duplication and redundancy on capture, modification, maintenance and management of infrastructure assets information; and existence of disparate non-standard systems for capturing, storing and maintaining information on public infrastructure assets resulting in multiple in-compatible, non-congruent and un-reliable sources of information.

To address the above mentioned challenges, an industry standard state-of-the-art **Enterprise Asset Management System (EAMS)** has been decided to be established and implemented in MOW. The EAMS has the following objectives:

1. Establish a state-of-the-art integrated Enterprise Asset Registry hosting all information relating to infrastructure assets.
2. Establish a state-of-the-art Enterprise Asset Management System (EAMS).
3. Establish a state-of-the-art Geographic Information System (GIS)/mapping system integrated with the Asset Registry and the Enterprise Asset Management System (EAMS).
4. Establish industry-standard tools for carrying out automated infrastructure assets management, maintenance management, procurement, inventory and reporting.

The EAMS is in the Traffic Signal and ITS Section of Roads Planning & Designing Directorate (RPDD) and Sanitary Engineering Sector consisting of Sanitary Engineering Planning & Projects Directorate (SEPPD) and Sanitary Engineering Operations & Maintenance Directorate (SEOMD); and Building Maintenance Directorate (BMD). The MOW Top Management, Cost Engineering Directorate (CED), Financial Resources Directorate (FRD) and Information Technology Directorate (ITD) will also be using the EAMS system.

The EAMS aims to establish continuous processes guiding management, use and disposal of public infrastructure to optimize service delivery and minimize costs over infrastructure assets' entire life. The public infrastructure assets referred to herein are the long-lived capital assets that are owned, operated and maintained by MOW in the Kingdom of Bahrain. Among the public infrastructure considered are the following:

All sanitation assets including sewer collection network, treatment plants, treated sewage effluent (TSE) network and drainage system including all drainage lines, and all sanitation components and equipment.

All roads assets including all highways, pavements, roads structures, underground assets, road drainage, traffic assets and equipment.

All government buildings and flats that are maintained by MOW including their structures, facilities and services.