Managing Facilities and Properties through GIS-based Integrated Systems

by

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Dr. Hamid Mehmood

Presentation outline

- What is GIS ?
- What are the advantages of managing facilities and properties through GIS-based integrated systems
- Who is using these systems and what for ?
- How can we help you in developing GIS-based integrated systems (FIMS) ?

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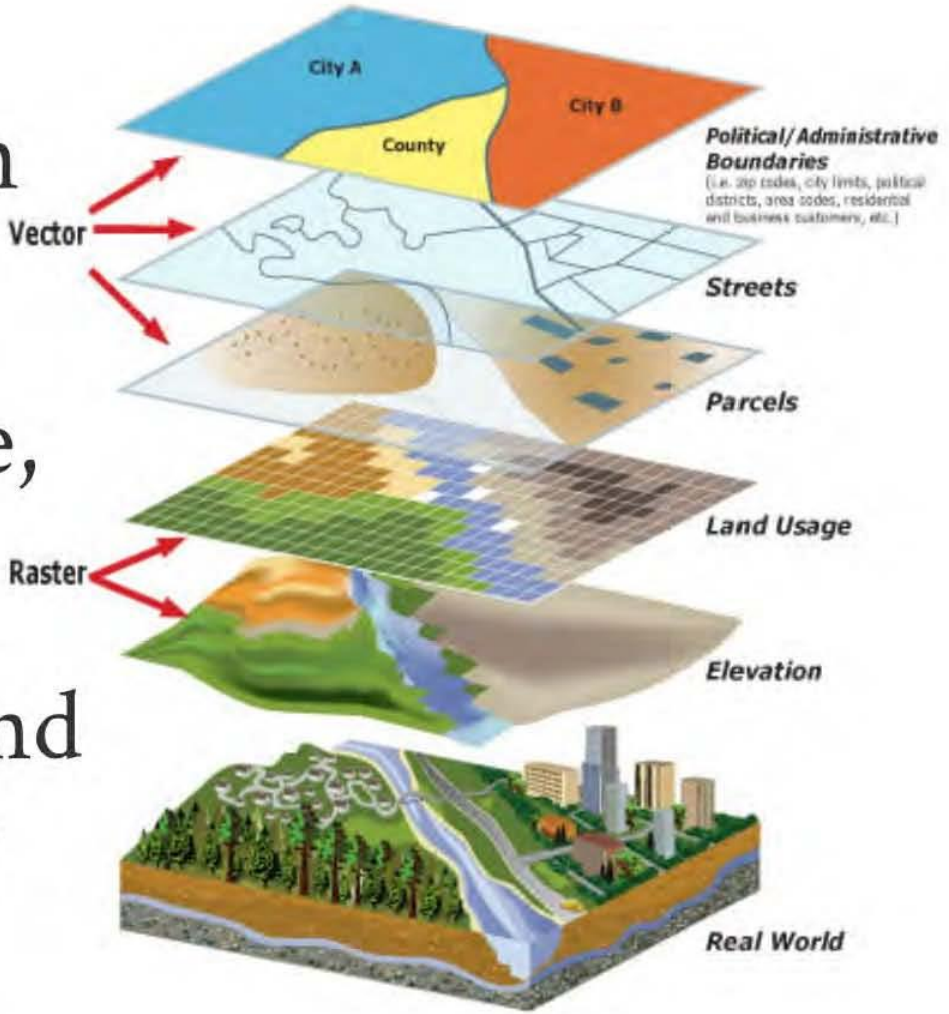
GIS

A geographic information system (GIS) is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data.



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Advantages of managing facilities and properties through GIS-based integrated systems

Site Selection/Strategic Planning

GIS can help you find the right site for your next store, distribution center, or shopping center. With a GIS, you can combine aerial photos, competitor locations, planned residential subdivisions, customer surveys, and census data to visualize market penetration, market share, and trade areas. When it comes to change, GIS can help you better understand existing locations and identify new markets to penetrate.

Portfolio Analysis

GIS helps you better understand and monitor your real estate investments by providing a visual, broad-scope understanding of your entire portfolio at a time. GIS can answer a lot by analyzing the whole real estate as a market.

- Is it a money-saving or earning...
- What should I relocate or consolidate next?
- What...locations are recommended to my highest performing clients?
- If I want to...new stores, which stores in the market should be closed together to help my overall strategy?
- What is the...relationship between my existing stores and new market areas?

Competitive Market Analysis

Losing customers to the competition costs you money. Knowing the types of products, promotions, and services that will attract profitable customers in your trade area can help retain customer loyalty and prevent cannibalization.

Where are my competitors located and where do they plan to locate in the future?

Demographic Mapping and Reporting

Demographic maps and reports are the basis for many other business functions: site analysis, sales, and marketing.

Understanding your customers and their socioeconomic and purchasing behavior is essential to making good business decisions.

Where are the sites with the highest population and income?

Site Assessment

Understanding and knowing all the specifics about an existing or potential site are key to successful site location and planning.

- Is the site's ingress and egress acceptable?
- Do traffic counts and flow meet your minimum criteria for success?
- Are there significant environmental hazards near or on the site?
- Are there new residential subdivisions planned nearby?

Site Potential Analysis

GIS can help you better understand your new site's potential in relation to the overall market.

Is the population growing or has it flattened?

Understanding the major demographic drivers for success and the potential in new markets is key to your market entry strategy.

Market Research

Solid local information about your new market is key to your market entry strategy.

Understanding the zoning and planning requirements in local markets can make or break a site's potential long-term return on investment.

What are the local tax incentives? Should you build or lease?

Marketing and Sales

Providing accurate information to your existing and potential customers is integral to your success. High-quality maps can be a powerful tool in your marketing materials.

Map production [illegible] and for use as any business presentation.

Your customized property portfolio presentation can be made available over the internet. We have many GIS maps, [illegible] and functions.

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Site Selection/Strategic Planning

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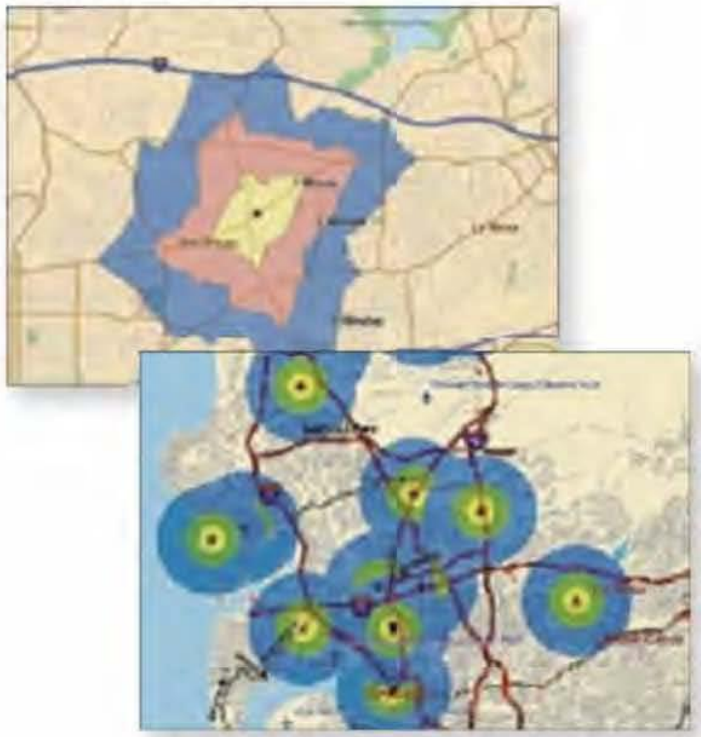
Drive-Time Trade Area Map



Radius Ring Analysis of Existing and Target Store Locations

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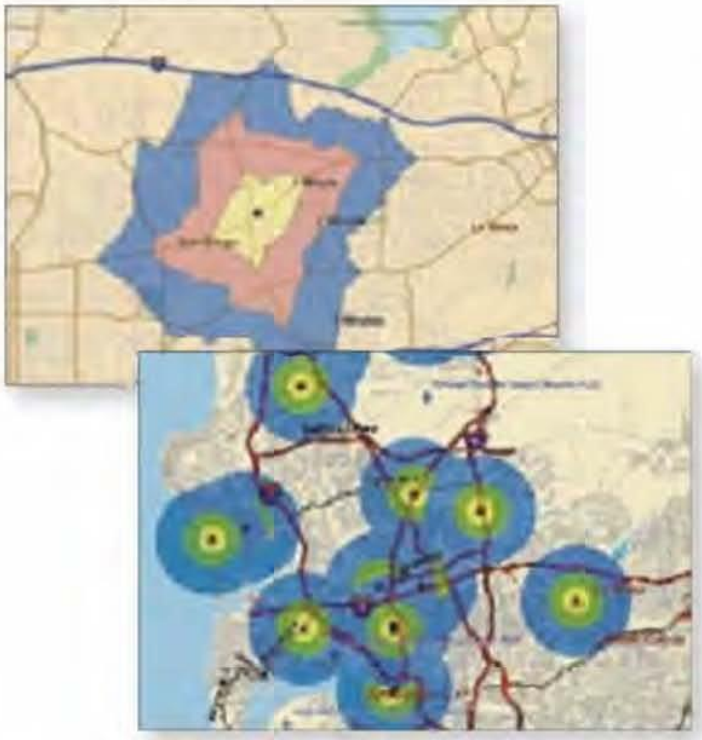
Portfolio Analysis

Drive-Time Trade Area Map



Radius Ring Analysis of Existing and Target Store Locations

GIS helps you better understand and know how well all store locations are performing in a market. Instead of just looking at one store location at a time, GIS can assist you in evaluating the whole store network in a market.

- Are stores underperforming?
- Why? Should I relocate or remodel stores?
- What demographics are characteristic to my highest performing stores?
- If I were to locate new stores, what areas in the market match the demo-graphics of my best performing stores?
- What is the cannibalization effect on existing stores when new stores open?

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Competitive Market Analysis

De

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Retail Sales Potential Map

Where are my competitors located and where do they plan to locate in the future?

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Where are the sites with the highest population and income?

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Site Assessment Map of Future Planned Shopping Center

Retail Sales Surplus and Leakage Map

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Site Potential Analysis

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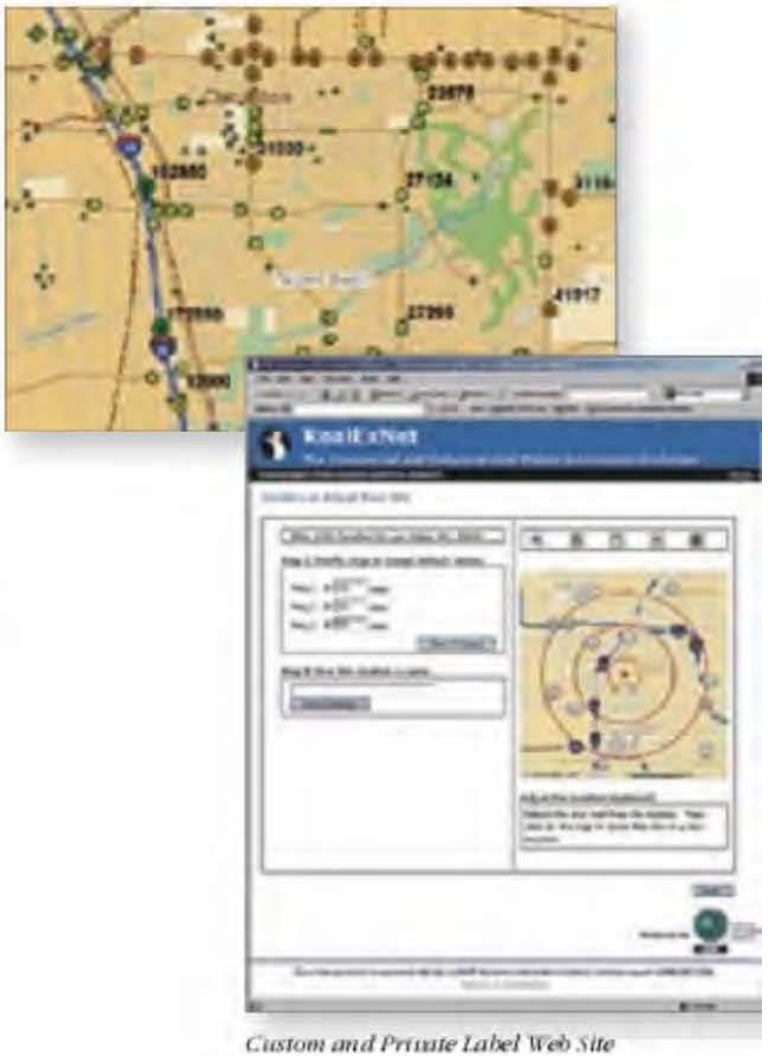
Should you build or lease?

Average Daily Traffic Count Analysis



Custom and Private Label Web Site

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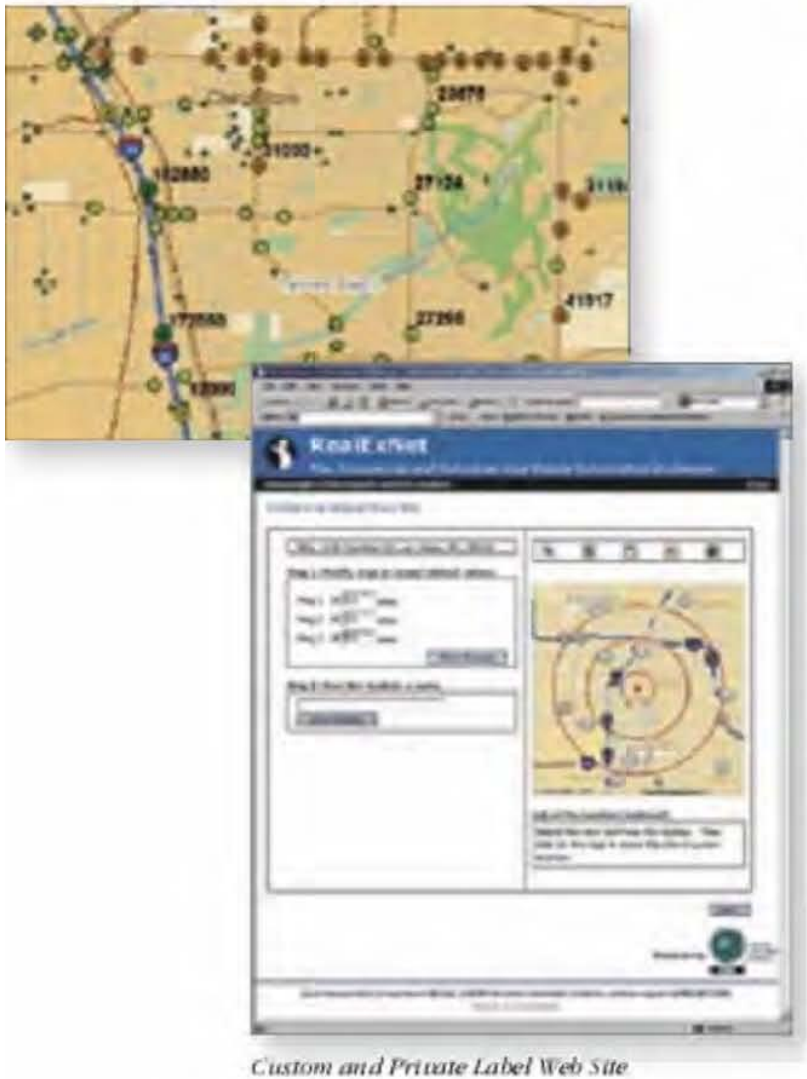
Average Daily Traffic Count Analysis



Custom and Private Label Web Site

Marketing and Sales

Providing timely information to your existing and potential customers is integral to your success. High-quality maps can be imported into print marketing materials.

Map production time is decreased, and the accuracy of locations is increased.

Your commercial property portfolio information can be made available on your company Web site along with maps, demographic reports, and directions.

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Who is using GIS based integrated systems

UNION PACIFIC RAILROAD

LJA Engineering, Inc.

FOREST CITY ENTERPRISES

EDENS™

Pulte Homes
The way it should be®

Windermere Real Estate

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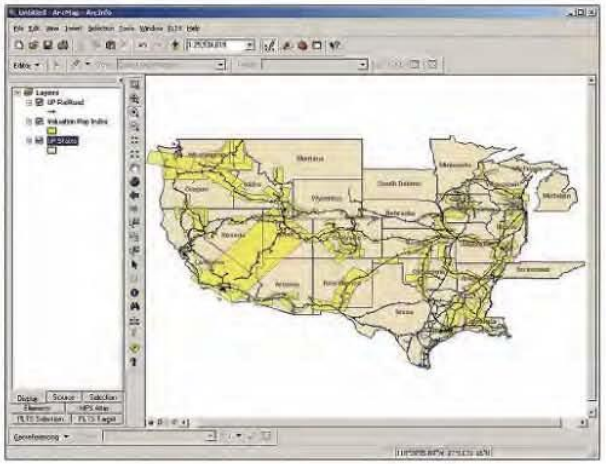
- Spatially locating scanned valuation maps of rail lines within 26 states of the western United States.
- Index polygons were then created around each georeferenced map to provide ease of access



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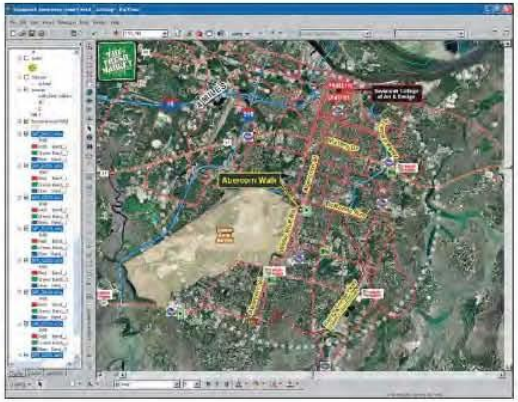
EDENS™

While Edens & Avant's use of its geographic information system (GIS) served it well with existing clients and clients proactively searching for retail space, it knew GIS could be used to target and market to specific retailers for new shopping center developments.

The company needed the ability to research and present shopping center competition, planned and active housing developments, and new road projects



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FOREST CITY ENTERPRISES

To stay abreast of market analysis trends for property acquisitions, Forest City Enterprises had to implement a new system for daily in-house analyses without hiring outside consultants.

Forest City Enterprises wanted to improve its mapping solution. Attention focused on reduced operation costs, greater access for multiple users, and better flexibility for the in-house production of demographic reports and maps as part of the retailer assessment packages

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Pulte Homes

The way it should be®

The second-largest builder of homes in the United States, recently revealed its new Web-based tool that assists potential home buyers to quickly locate a new home in a desirable area.

The tool allows house seekers to navigate an interactive map, rapidly "drilling down" to an image of the desired home along with relevant information.

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LJA Engineering, Inc.

Windermere Real Estate

Created an economic development tool, a client or broker looking for office space in the county sets up an appointment with the council and sits down with a technician to search office space. The system queried with the specified project parameters through the customized menus.

Information, such as address, name of building, rental rate, size, available space, amenities, and broker information, is instantly accessible.

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How can we help you in developing GIS-based integrated systems (FIMS) ?

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What is FIMS

FIMS is a web-based, enterprise solution
Provides GIS based visualization, planning, analysis and reporting for

- Superior operational insight
- Cost control
- Efficient management of space, people and assets

FIMS allows companies to visualize and analyze their assets including acquisition, tracking, maintenance, and management of real property, capital equipment and supply chain. It helps businesses perform better facility/ property/asset management by answering questions like:

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FIMS allows companies to visualize and analyze their assets including acquisition, tracking, maintenance, and management of real property, capital equipment and supply chain. It helps businesses perform better facility/ property/asset management by answering questions like:

- Where are company's assets located?
- What can be the best modeled 'what if' scenarios?
- How to plan routes for the facilities?
- How vulnerable are facilities to response times?
- Where are the distributors and suppliers?
- How to maximize revenue potentials?
- What risk/security plans are needed?

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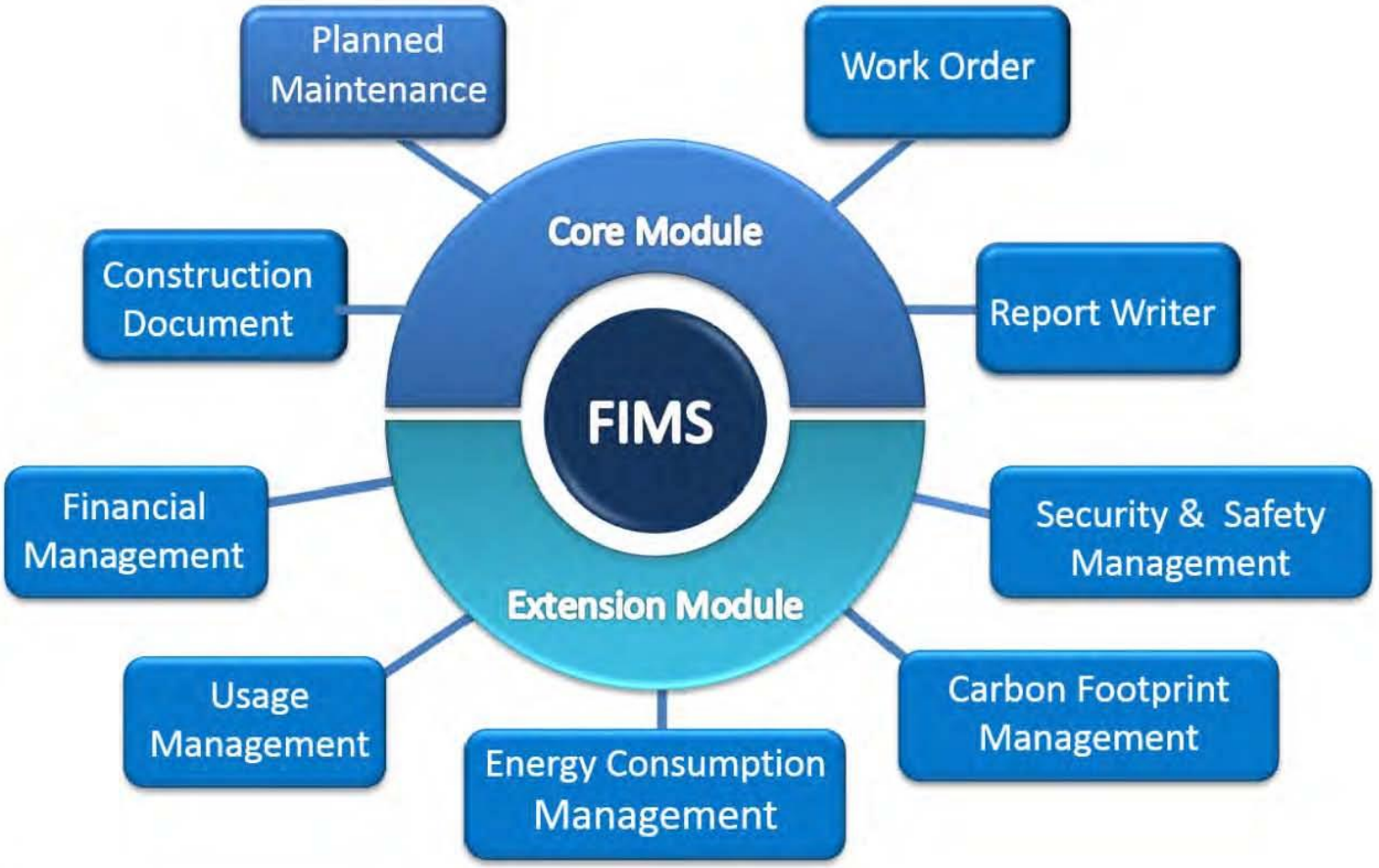
FIMS for Real Estate
AIT Consulting



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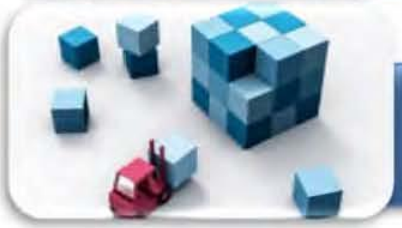
Extension Modules

Financial Management

Usage Management



Energy consumption Management

Carbon footprint Management

Security & Safety Management

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Core Module Details

Facility Construction Documents

Planned Maintenance

Work Order Management

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Facility Construction Documents

Drawing	Procurement details (e.g. materials, contractor, etc)	Environmental condition
Other specifications for building quality	Other setup (e.g. electricity, air condition, water supply, telephone/LAN wiring, wireless, etc)	Cover all documents starting from construction and subsequent changes

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Planned Maintenance

Coming scheduled maintenance (and history of last maintenance works)

Details of materials (e.g. brand of paint) and labor (e.g. number, type, time) required as well as detail costs and person/unit responsible for the maintenance

Email/SMS advanced notification to the person responsible for each maintenance

Report to the management if scheduled maintenance is not carried out timely

Historical comparison of maintenance costs by type and year

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Work Order Management

Records of work orders (work details, requestor, costs, details of materials and labor used, etc)

Progress status

Online request with online approval and monitoring of progress status (multiuser version)

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Extension Module Details

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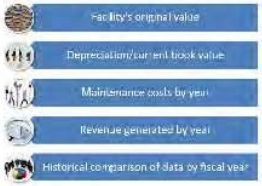

Usage Management

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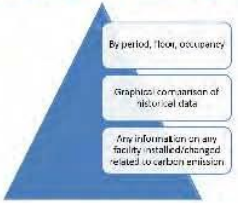
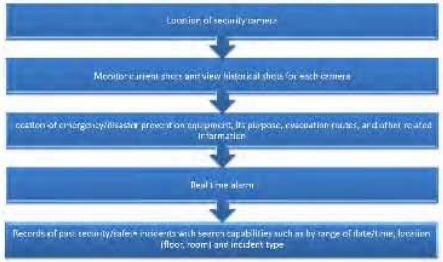


Security and Safety Management



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Financial Management

Facility's original value

Depreciation/current book value

Maintenance costs by year

Revenue generated by year

Historical comparison of data by fiscal year

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Usage Management

Person/Office using/occupying the space (part of occupation/lease data)

Purpose of use (Lab, class, office, residence, etc)

Asset inventory or equipment inside (computer, projector, telephone, etc) and number of each as well as its location

Capacity (for certain type of use, such as class room)

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Energy Consumption Management

By period, floor, occupancy

Graphical comparison of historical data

Any information on any facility installed/changed related to energy consumption (e.g. air condition system, electrical bulb, etc)

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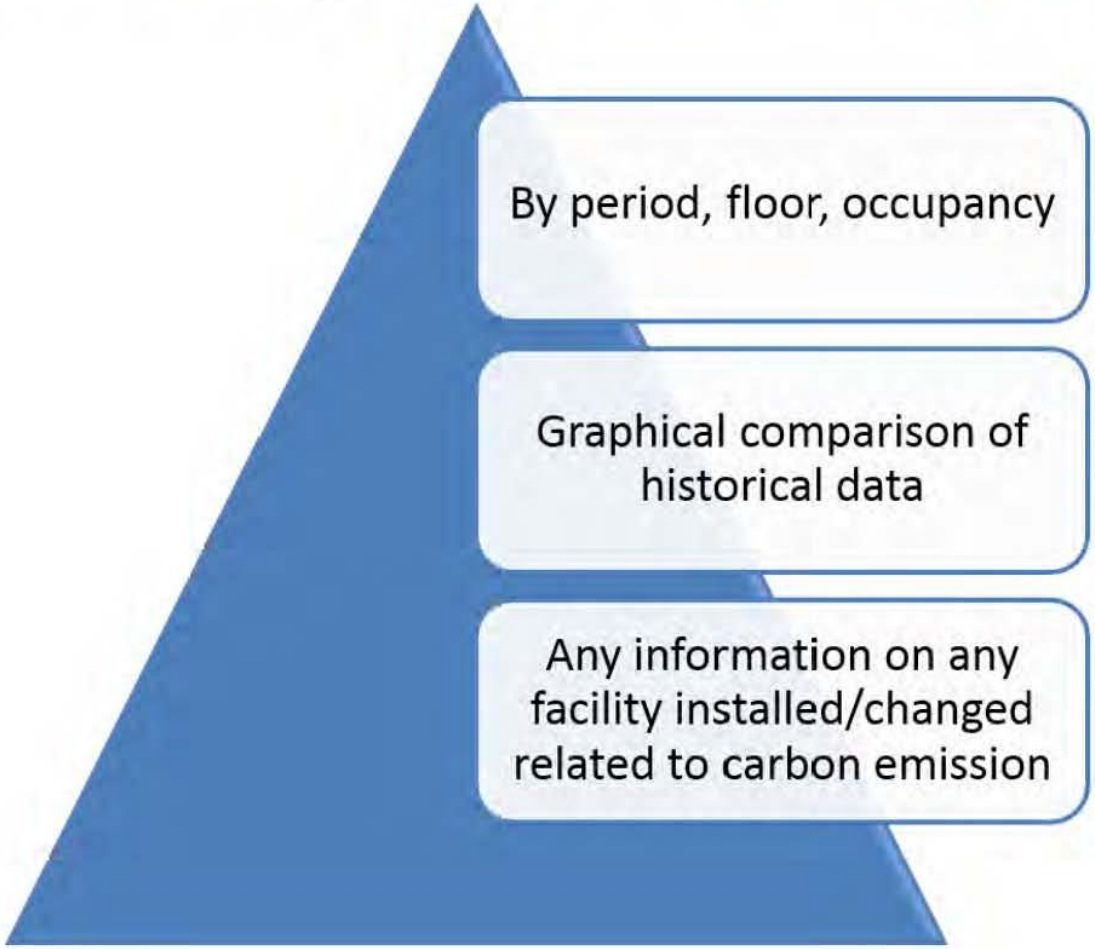
Carbon Footprint Management



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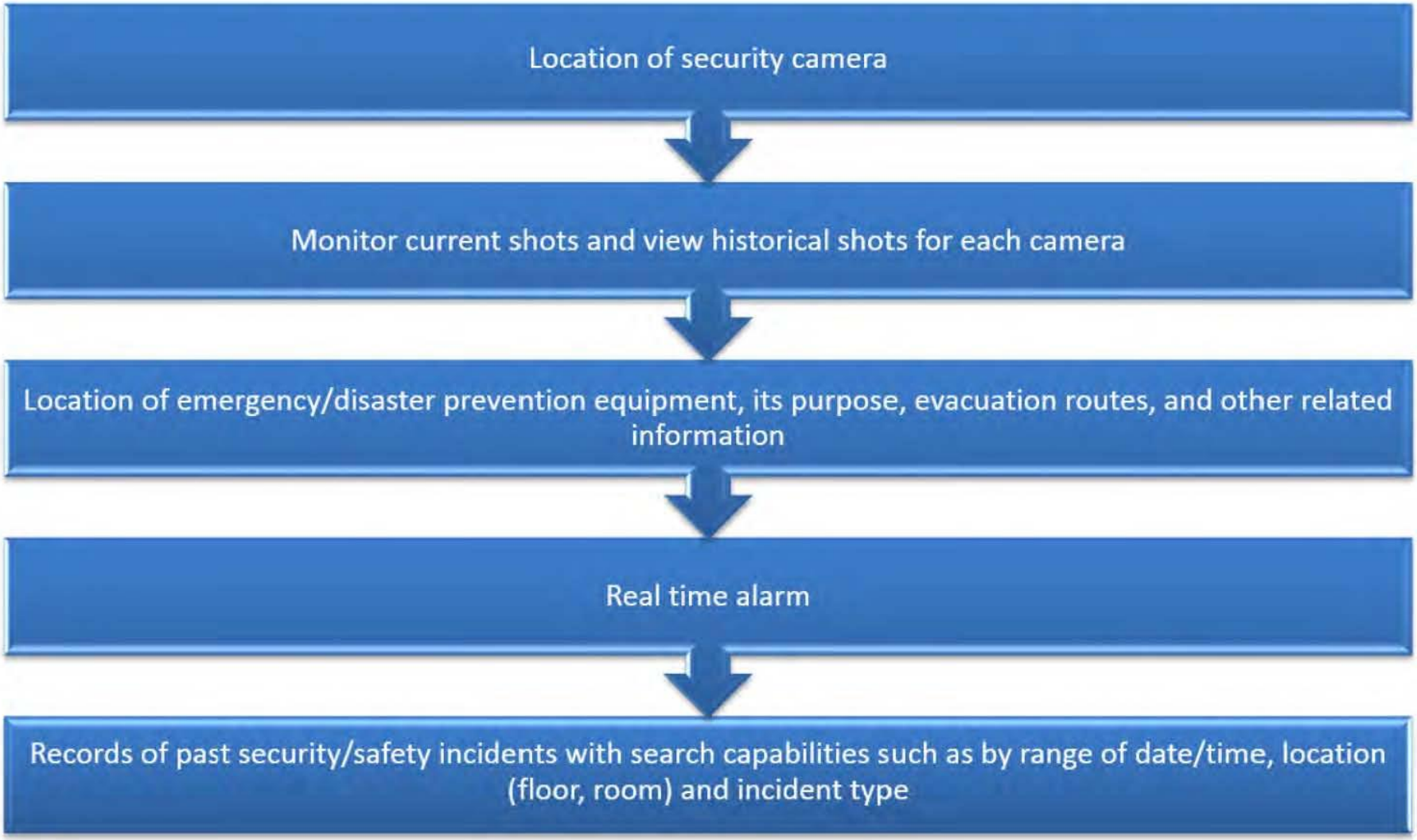

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System Demo

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