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Design @ DSHOP



Public Infrastructure



Transmission Infrastructure



Critical Infrastructure



Control Room & Data Centre



Private Infrastructure



Heritage Infrastructure



Industrial Infrastructure



Transportation Infrastructure



Transportation Infrastructure



Infrastructure Health Monitoring

[Architecture][Environment][**STRUCTURES**][Fluids][Soils][Energy]

STRUCTURAL HEALTH MONITORING • • STRUCTURAL HEALTH AUDITS
 STRUCTURAL ASSET MANAGEMENT • • ROCK MECHANICS & SLOPE STABILITY
 STRUCTURAL REHABILITATION & REPAIR • • CENTRAL CONTROL ROOMS & DATA CENTERS



We Understand The Relation Between Infrastructure Environment & Energy

Domain: Structures

STRUCTURAL HEALTH MONITORING

- * ELEMENT PROFILING
- * CORROSION MONITORING & MITIGATION
- * SHOCK & VIBRATION MONITORING
- * DEFORMATION & STRAIN MONITORING
- * CRACK PROPOGATION MONITORING
- * PRESSURE MONITORING

STRUCTURAL HEALTH AUDITS

- * AUTO AUDITORS & THRESHOLD AUDITS
- * RESIDUAL LIFE ASSESSMENT
- * NDE-NDT
- * ACCIDENT INVESTIGATION
- * DISASTER MITIGATION
- * SUB-SURFACE EXPLORATION

STRUCTURAL ASSETS MANAGEMENT

- * STRUCTURAL ASSET - REMOTE MANAGEMENT
- * STRUCTURAL ASSET - LIFE CYCLE EVALUATION
- * STRUCTURAL ASSET - PRESERVATION
- * STRUCTURAL ASSET - CONDITION MONITORING
- * STRUCTURAL ASSET - PREVENTIVE MAINTENANCE
- * STRUCTURAL ASSET - RISK MITIGATION

ROCK MECHANICS & SLOPE STABILITY

- * SLOPE STABILITY
- * LANDSLIDES CONTROL
- * DEBRIS FLOW MITIGATION
- * ROCK FALL CONTROL
- * MUD FLOW CONTROL
- * EMERGENCY MANAGEMENT

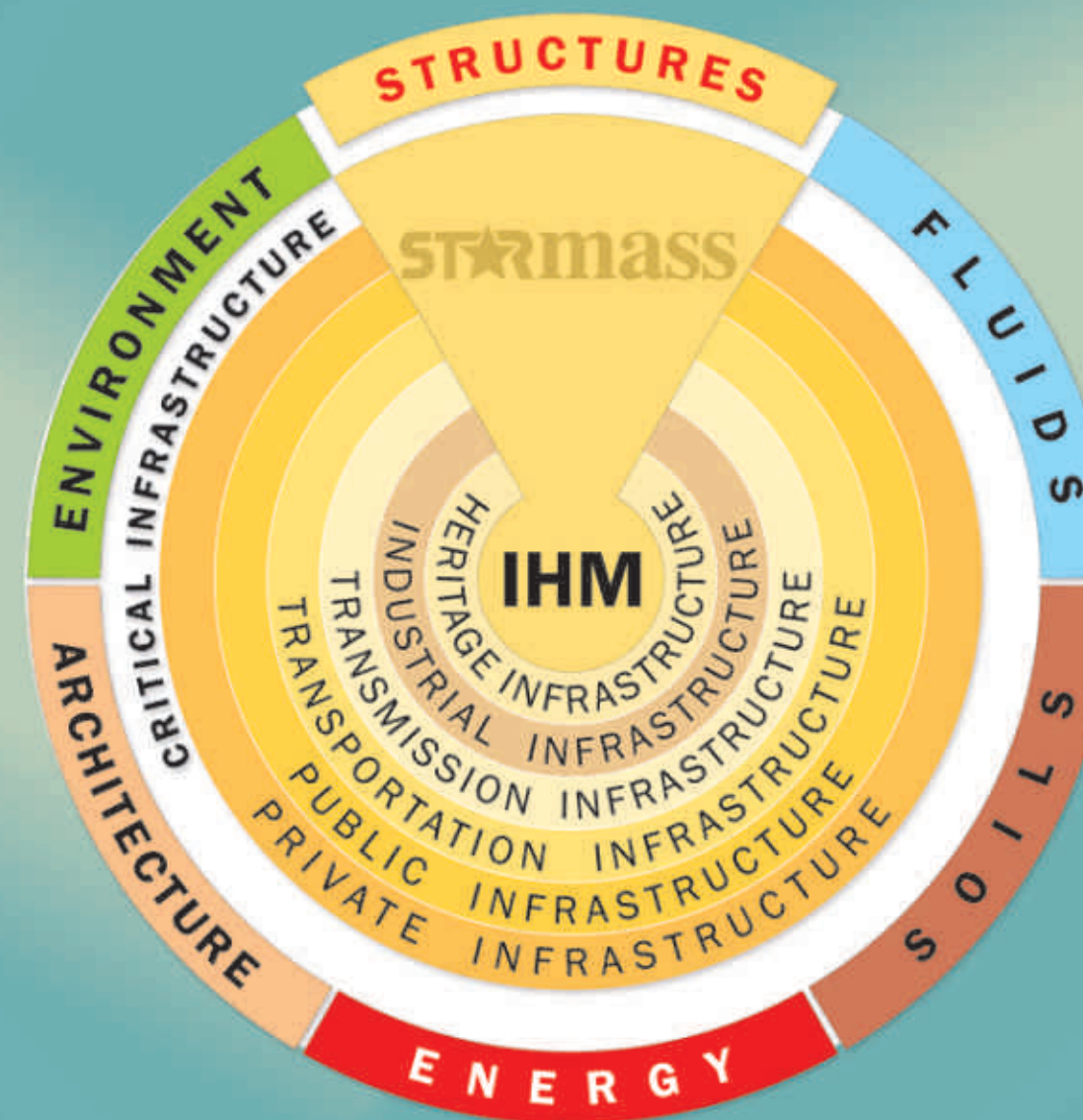
STRUCTURAL REHABILITATION & REPAIR

- * STRUCTURAL STRENGTHENING
- * REPLACEMENT OR REMEDIATION
- * CATHODIC PROTECTION
- * CONTROLLED DEMOLITION

CENTRAL CONTROL ROOM & DATA CENTER

- * CENTRALIZED MONITORING - CONTROL ROOM
- * WEB-PORTAL
- * ALERTS AND EVENTS MANAGEMENT
- * REMOTE MIRRORING
- * DATA ARCHIVING & RETRIEVAL
- * GIS INTERFACE

Infrastructure Health Monitoring (IHM)



We Understand The Relation
Between Infrastructure Environment & Energy

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Environment Technologies Corporation - USA

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Starmass Civionics Technologies

- SENSING TECHNOLOGIES
- WIRED COMMUNICATION TECHNOLOGIES
- WIRELESS COMMUNICATION TECHNOLOGIES
- NETWORKING TECHNOLOGIES
- AUTOMATION TECHNOLOGIES
- DATA MANAGEMENT TECHNOLOGIES
- DATA VISUALIZATION TECHNOLOGIES
- GIS TECHNOLOGIES
- DISPLAY TECHNOLOGIES
- WIRELESS SENSOR NETWORKS
- INFORMATION TECHNOLOGIES

ADVANTAGES

- REAL-TIME MONITORING
- MULTI SYSTEMS INTEGRATION
- LONG DISTANCE COMMUNICATION
- CENTRALIZED CONTROL
- SEAMLESS HISTORICAL DATA ARCHIVING AND RETRIEVAL
- ENCRYPTED DATA SECURITY
- MULTI- ALERTS MANAGEMENT
- DOMAIN SPECIFIC APPLICATIONS

PARAMETERS

STRUCTURES

- PRESSURE
- STRAINS
- DISPLACEMENTS
- CORROSION
- CRACKS
- TEMPERATURE
- FATIGUE
- CHEMICAL CHANGES

SOILS

- SOIL PRESSURE
- SOIL SETTLEMENT
- SOIL SEEPAGE
- SOIL MOISTURE
- SOIL DENSITY

ENERGY

- AMR
- ENERGY AUDITS
- FATIGUE

ENVIRONMENT

- AIR QUALITY
- NOISE POLLUTION
- DUST SUSPENSION
- WATER POLLUTION

FLUIDS

- (WATER - POTABLE-GREY-BLACK)
- WATER LEAKS
- PRESSURE
- FLOW
- WATER LEVEL
- TEMPERATURE
- CONDUCTIVITY
- PH VALUE
- REDOX (ORP)
- OXYGEN SATURATION
- CHLOROPHYLL FLOUROMETRY
- TURBIDITY
- SIGNAL AT WATER CONTACT
- MATERIAL COMPOSITION
 - AMMONIA
 - NITRATE
 - CALCIUM
 - SODIUM
 - POTASSIUM
 - CHLORIDE
 - FLUORIDE

ARCHITECTURE

- TILT & INCLINATIONS
- VIBRATIONS
- CORROSION