The CIS-TRM: Phase 1 Technology Priorities

⇨ Life cycle costs

- Account for indirect and intangible costs (social, environmental)
- Define service life for benchmark and life cycle analysis
- LC benefits in asset management plan
- Predictive models
- Condition analysis techniques
- Prediction/ processes of Life cycles performance of new materials
- Etc.

⇨ Systems approach to CIS – integrated asset management

- Define critical CIS systems that need to be integrated in holistic system
- Integrated decision-making models
- Performance indicators and benchmarking
- Standard data models, shared accessible
- Collaboration of public utilities
- Etc.

⇨ Performance specifications

- Sensors for performance measurement- real time
- Define Performance- system approach
- Pre-qualification of products/ materials/ sources
- Tools supporting value (engineering) analysis
- Etc.

⇨ Condition assessment and performance prediction

- "know what's there"
- Non-intrusive and non invasive methods
- Long-term failure mechanisms and deterioration mechanisms and models
- Predictive models that include future demand and deterioration conditions
- Uncomplicated equipment/durable
- Standard testing/Interpretation methods (national)
- Results formatted to feed the decision-making system
- Etc.

⇨ Decision Support Systems

- Expert/ knowledge based systems
- Risk models
- Analysis tools (Structural)
- Characterization of decision levels and information needs
- Etc.

⇨ Smart systems

- Systems that monitor condition status and deterioration rate
- Smart/intelligent materials
- Nanotechnology applications
- Etc.