

CASE STUDY

CITA

Contrôle et Information du
Trafic sur les Autoroutes

ABOUT CITA

CITA has been realized on behalf of Ponts et Chaussées, the Luxembourg government road authorities. The project objective was to put in place a highway traffic control and information management system allowing monitoring the entire highway network throughout Luxembourg.

The technical concept was developed by a consortium made up by HITEC Luxembourg in cooperation with Graf & Reber Engineering (Geneva, CH).

A dedicated supervision system was installed in different project phases. It consists of:

- Control center - Technical rooms
- Optical redundant network
- Real-time traffic and meteorological data collection
- Cameras for surveillance and automatic incident detection
- Control-Command and HMI
- Gantries and variable message signs (VMS) for traffic regulation

The developed infrastructure concept is in use since 2000. HITEC Luxembourg is since then in charge of evaluating technologies to keep CITA a state-of-the-art infrastructure.



KEY PROJECT DETAILS

Client:

Ministère du Développement Durable et des Infrastructures - Administration des Ponts et Chaussées, Luxembourg

Applied regulation:

Code des Marchés Publics Luxembourgeois

Project phases:

1. Elaboration of contract specifications & project documents
2. Project controlling & technical management

Project duration:

1996 - 2007



OBJECTIVES

1. Creation and Compilation of call for tender for the traffic management infrastructure
2. Planning and project schedule

TASKS

1. Project Definition
 - System analysis
 - Definition of essential technical data
 - Concept definition
 - Detailed structure for system and installation
 - Detailed description of data flows and quantity of data
 - Definition of interfaces
 - Clarification of security and energy issues
 - Wiring principles
 - Determination of volumes and location of installations
 - Coordination of installation tasks
2. Budget estimation
3. Elaboration of RFP documents and contract specification
 - General conditions and general project description
 - Description of installation tasks
 - Specific technical conditions
 - Technical summary
 - Financial summary
 - Drawings and schemes
4. Analysis and evaluation of tenders
5. Proposal of supplier to client
6. Project Planning and schedule

PHASE PHASE

1 2

Elaboration of contract specifications & project documents

Project controlling & technical management

OBJECTIVES

1. Supplier contract management
2. Creation of work description
3. Supervision of task realization according to contractual definitions
4. Qualitative and technical control of installation and final acceptance

TASKS

1. Work description
 - Follow up of specified contractual aspects (models, functions, data, interfaces, constraints, dimensions, calculations, etc.)
 - Validation and approval of project documents, schedules and drawings
2. Project status controlling (financial, technical, progress, quality of task accomplishment)
3. Planning, supervision and implementation of acceptance tests
4. Project Management and Quality Management & Assurance
 - Site installations
 - Deliverables
 - Invoices
 - Verification and validation
5. Standard and statement of work conformity
6. Project Review & Completion
 - Final project costs analysis
 - Validation of project AS BUILT documentation and accomplished tasks
 - Enforcement of guarantees and adjustments
 - Production of maintenance manuals

FUNCTIONALITIES & FEATURES

1. Traffic supervision
 - Data acquisition for traffic control & regulation
 - Characterisation of events
 - Coordination of interventions
2. Road side installation management
 - Equipment status control
 - Pre-emptive and corrective maintenance
 - Spare parts stock management
3. Infrastructure management procedures
 - Resources management for interventions
 - Selection of operating modes
 - Preparation of information
 - Proposal of emergency plans
 - Automatic intervention calls and alarms
4. Interface management with external systems, users and partners
 - Traffic data transfer
 - Forwarding of alarms
 - Synoptic communication
 - Video and data transmission
 - Management of human resources for stand-by service
 - Remote access for maintenance interventions
5. Training of operators
6. Maintenance management



SUBSYSTEM MANAGEMENT

- Network management
- Vehicle counting
- Incident detection
- Video monitoring
- Weather stations
- Variable message displays
- Tunnel supervision
- Front-end sensors and actuators
- Data streaming
- Centralized data treatment
- Supervisory environment
- Vehicle identification
- Ramp metering
- Height detection
- Traffic safety systems
- Communication, navigation and survey



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Got any questions you want to ask us? Simply contact us!



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