



ROV Développement



- ▶ **Electronic development laboratory**
- ▶ **Mechanical and hydraulic research departments**
- ▶ **Assembly shop**
- ▶ **Machining shop**
- ▶ **Boilerworks**



All the stages of the design and production are home-made

www.rovrailwayindustry.com



ROV Développement and the World market





Our technical offer for the infrastructure

CAMEROV® VISIOCAT®-P

HF Transmitter



Pantograph inspection camera

CAMEROV® VISIOCAT® LAS'CAT®



Catenary inspection camera

Approval
N°DPI 15035



Winner of Innovation for Sustainable Development Awards (Infrastructure)



Our technical offer for the infrastructure

THE ADVANTAGES CAMEROV® VISIOCAT®-P

- * Checks the status of the pantographs and roof without access platform
- * Pantograph on each check :
 - the condition and fixing Shunts, joints
 - the setting of the bow (axes, pins) and the state of the horns
- * Wear strips on the bow chek:
 - the absence of disturbance (loose screw, protruding, strips)
 - the absence of very pronounced grooves
 - Assess the wear strips (statement of boot marks, warm-up)
- * On the roof checking machines
 - the roof line and insulators (fracture, fixation)
 - sectioning (attachment nuts and capital, lubrication)
 - the SPD (fixing insulator)
 - absence of foreign body (pendulum)
 - research the causes of incidents
- * Easing Consignations
- * Avoids passing the cameras gantries
- * Quick visual aid for the driver
- * Assistance Maintenance Technical Visits,
- * Audits of high loads to the FRET without access platform
- * Monitoring and controls of work done by subcontractor or third parties

Check roofs



Backpack
«COMPACT»



Check pantograph



Our technical offer for the infrastructure

THE ADVANTAGES CAMEROV® VISIOCAT© LAS'CAT©

- * Thickness measurement of the contact wire (accuracy 1/10eme mm)
- * Exploration and identification of wear points and regeneration
- * checks of conditions of the various component parts of the catenary
- * Checking of cables wear, small cable pendulums, connections
- * Creation of a database and property tracking
- * Control of isolators
- * Checking fins of isolators ... Searching of cracks , distorsions
- * See priming traces, heating traces
- * Help to technical visits for maintenance: thickness measurement of guide pads of insulator, thickness measurement of wire
- * Thickness statements after automatic report for lifting of doubt
- * Control of pantographs condition and roof condition without access platform
- * Research causes of incidents on the roof of the machines
- * Observation of pantographs at enter of station (Avoid Operation Restriction Request for camera gantry)
- * Observation of any wall-mounting devices (tunnels, public highways, facades ...)
- * Support and strengthening of investment requests
- * Checking pulleys and counterweights
- * Control of flatness condition of the contact wire
- * Tracking and controls of work performed by subcontractors or third parties



Backpack
«COMPACT»



Our technical offer for the infrastructure

THE ADVANTAGES CAMEROV® VISIOCAT© LAS'CAT©

- * Checking serial numbers on offending parts
- * Control of isolation on insulated cable sheath
- * Statement of annealing by variation of colors on the hard copper
- * Thickness statements in common areas
- * Controls of dynamic behaviors of pantographs at real speeds on installations
- * Control of wear strips on pantographs
- * Control of high loadings for the freight without access platform
- * Checks for oil leaks on very high voltage transformers without power interruption

ADDITIONNAL APPLIANCES WITH LAS'CAT MODULE

- * Height measurement of contact wire (accuracy < 10 mm)
- * Measurement of X dimension (pulleys and counterweight)
- * Measures side face of posts
- * Isolation distances under bridge, tunnel
- * Height difference in switches
- * Deflection: continuous observation by video of the rail decline while the train is passing.
- * Dimension of catenary
- * Checking measurement of supports
- * Measurement of pieces situated on catenary (bracket, return arm...)
- * Height and length of line bracket.....
- * Catenary gauge in sections
- * Distance of spacing between posts face to face
- * Length of tubing



Deflection on tripod



Height measurement of Overhead Catenary System (OCS)





Our technical offer for the infrastructure

CAMEROV[®] HDD-E[®] (N°DPI 15091)



Automatic measurement system without contact for machine, trolley and rule

Height
Stagger
Cant
+
Track gauge



Machine



Trolley



Our technical offer for the infrastructure

THE ADVANTAGES CAMEROV® HDD-E®

Reliability and accuracy

- * Details on the misalignment +/- 3 mm, height +/- 1mm on, on the slope +/- 1mm
- * No transcription errors, measurements are stored in the PC or Tablet

Ease of use

- * A single click on the wire screen picture triggers measures
- * The possibility to prepare the measurement campaign before surgery reduces the field entering information to a minimum
- * Automatic Editing a report before morning

Human resources

- * An agent is sufficient for its implementation

Maintenance Care

- * No or very little maintenance
- * Consumables: battery every 2 to 3 years

USE ON TROLLEY / RULE (REGISTRATION 15092 DPI)

Ergonomics

- * Little effort required to weigh all 16.9 kg (including PC)
- * The carriage / folding rule into the trunk of a light vehicle.
- * Station standing on the move and the measurement, no awkward position
- * Very little effort to push the cart / rule that rolls being guided

Autonomy

- * Several hundred measurements made between charges

Security

- * No template constraint, the withdrawal out of the way is instantaneous



Specifications of carrying box:

- . Length : 950 mm
- . Width : 450 mm
- . Height : 270 mm
- . Weight : 12,5 Kg

Storage :

- . Trolley/Rule
- . HDD case
- . Tablet or Laptop



Our technical offer for the infrastructure

THE ADVANTAGES CAMEROV® HDD-E©®

Utility

- * The CAMEROV ® HDD-E ©® measures the height, stagger of the catenary and the Cant of the way, in option :
Track gauge measurement (Vehicle version)

Double use

- * On trolley / or manipulated rule manually pushed
- * On rail vehicle / road, in this case the CAMEROV ® HDD-E ©® can always be removed for use on truck / rule in case of immobilization of the vehicle.

Security

- * The measurement is non-contact and therefore do not require recording, the pull wire may be energized
- * No danger to the operator

Use in any circumstances on any network

- * Airways, network 750V, 1500V, 3000V, 25000V, DC or AC
- * Tunnel and tram
- * Can be used in any weather conditions (rain, sun ..)
- * Suitable for extreme climatic conditions (-40 ° used by Canada)

Swift action

- * Dynamic measures
- * regular and ad hoc measures with vehicle road / rail or truck / rule stopped
- * Dozens of measurements can be made per night



Our technical offer for the infrastructure

THE ADVANTAGES CAMEROV® HDD-E©®

USE VEHICLE ROAD / RAIL

Set Up

- * The CAMEROV ® HDD-E ©® is positioned on the front bumper of the vehicle, and additional laser sensors close to the wheel / rail
- * The initial installation is very fast, half a day is enough on gear predisposed
- * The withdrawal and the regular establishment take only a few seconds

Ergonomics

- * The technician can operate from the cockpit in the best conditions of comfort

Autonomy

- * Unlimited, the CAMEROV ® HDD-E ©® can be supplied by the vehicle

Maintenance Care

- * The CAMEROV ® HDD-E ©® and laser enclosures are protected by additional aluminium housings for their avoid any kind of shock or ballast projection
- * The risk of major breakdowns related to the use of a telescopic pantograph and devices (compressor, cylinders, pneumatic hoses, generator ...) are nonexistent with CAMEROV ® HDD-E ©®

Cost

- * In standard financial economy vehicle in the choice of embedded hardware CAMEROV ® HDD-E ©® against the pantograph system

VIDEO

Railway



↔ SBB CFF FFS

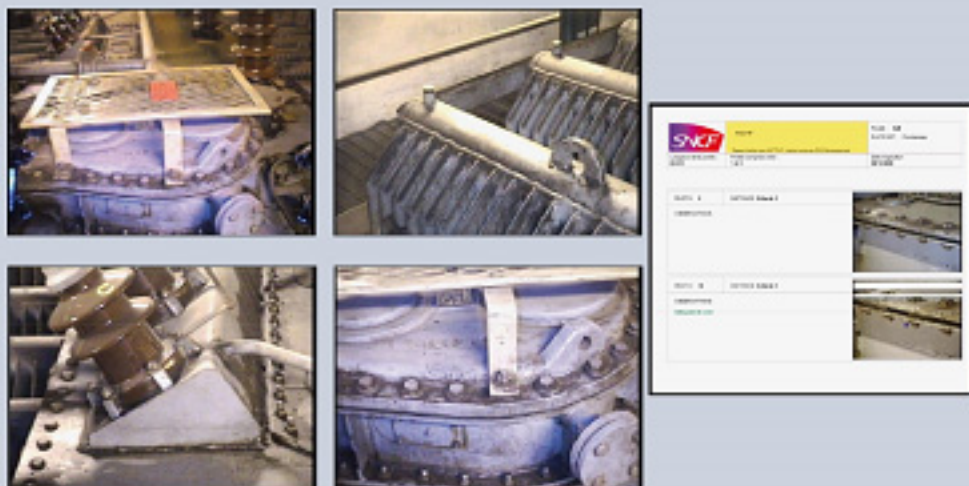


Australie



Railway

PARIS - RATP

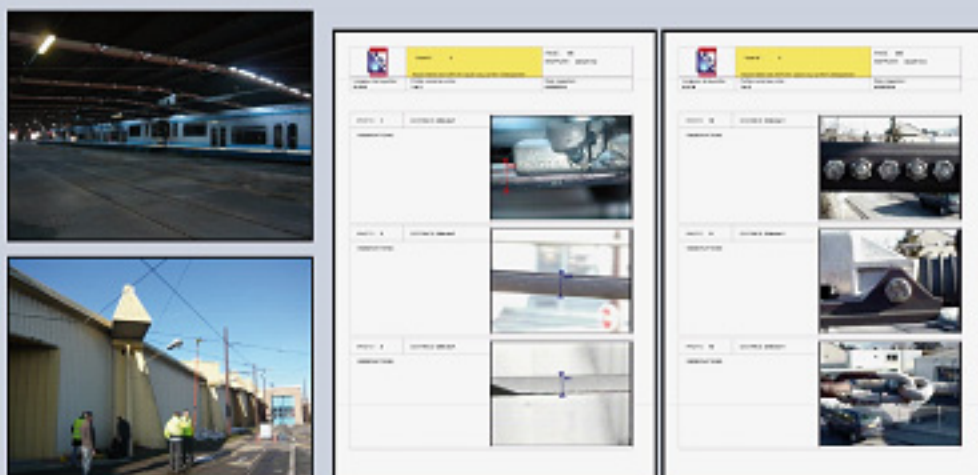


Contrôle de transformateurs 60 KVA / 60 KVA transformers control

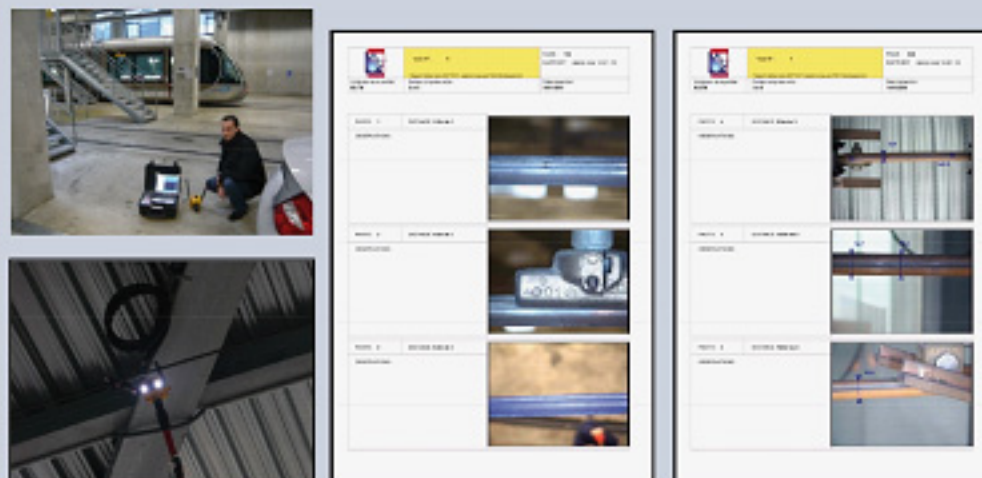
LE MANS - SETRAM



GRENOBLE - SEMITAG



LE HAVRE - CTPO



Compagnie Générale des Eaux Véolia Eau Toulouse – Communauté urbaine Marseille Provence Métropole – SNCF Direction des Infrastructures – SNCF LGV Est – Devers – Serex – Communauté d'Agglomération Bourges Plus – Socodei – Tech Sub Industrie Environnement – Amendis – Foremhyd – EDF Agence Achats Hydraulique – Reane – Cnim – Imago group Benelux – Potiron SAS – SPIE Nucléaire – Selca – Ciel – Assainissement Vila – EDF UTO us Ile de France – RTD-PS&I – Conseil Général de la Seine-Saint Denis – Direction de l'Eau et de l'Assainissement – Acvatot Sade Roumanie – Quillery Environnement Urbain – SNCF Nancy – SNCF Sotteville-les-Rouen – SNCF Nantes – SNCF Direction Régionale de Dijon – STEF Océan Indien – SNCF Direction Régionale de Lille – Arcadis – Smce Reha S.A. – SNCF Paris Nord – Sade Singapore Ltd – Gilardoni – EDF Centre de Production Thermique de Porcheville – Lyonnaise des Eaux Casablanca – NNS Mécachimie – SNCF Direction Régionale de Montpellier – EDF Centre de Production Thermique de La Maxe – Melox – ADTN – Degrémont Services SAS – SNCF Direction Régionale de Toulouse – EDF Centre de Production thermique du Havre – ASI – EDF-CIH – CEA Marcoule – Arcelor Mittal Méditerranée Fos sur Mer – Lyonnaise des Eaux Illzach – SAA Electronique Automatismes – EDF Centre de Production Thermique de Blenod – Achats Service – Electronique Applications – ACH – Protém – Arcelor Mittal Atlantique Lorraine Dunkerque – Veolia Eau Compagnie Générale des Eaux Cerny – Sud Est Assainissement du Var Veolia Eau – Insituform – Lyonnaise des Eaux Le Pecq-sur-Seine – Saur Manosque – Sade Marcq-en-Baroeul – Ville de Pau- Sanicentre – Sarp Sud Ouest – Sanitra Services – Avsp – Systel – Arcelor Mittal Atlantique Lorraine Florange – Ortec Méca – Cegelec Nord et Est – Areva NC La Hague – Robatel Industrie Génas – EDF - DTG Compagnie Pétrochimique de Berre – Repe – Sepr – Sos Débouche – CFT – Sivom Durance Lubéron – Lermes Cust – Forécreu – Westinghouse Barras Provence SA – Prosperi SA – SGN – Brunet TP – Incotech – Phoenix services Espagne – TAEH – Gastec – CVA – Insituform Technologies Ibérica – Ville de Fougères – Bouygues TP – Les Travaux Parisiens – Ceptp – Solen – Sarp Caraibe – Veolia Propreté – Claisse ADN – Sobea Environnement – Cesmae – Bressor SA – Syndicat Intercommunal des Cinq Communes pour l'Eau et l'Assainissement – Rehatec – Entreprise Gesset – Saur Nîmes – Compagnie Générale des Eaux Génas – Sade Châlons-en-Champagne – Cete Apave Sudeurope – Unidad Coordinadora Bid – Mpc / Sade Honduras – Ville de Six-Fours-les-Plages – Biome – Sos Net Egouts – Sitpo – Aeps Environnement – BEJ – Iss Hygiène Services – Sade Philippines – Adtec – Ville de Bourg-en-Bresse – Seegt – Spie Citra Sud Est – Socodis – Aes – Tedeco – Smadec – Entreprise Rool – Delfau – Entreprise Piermant – Sater Rhône Alpes – Sater Bourgogne – Ville de Gap – Ville de Saint-Dizier – Télérep Est – Spgs – Silim Environnement – Sade Exploitation Sud-Est – IRA – Société Monégasque de Curage – Clemessy SA – Areva NC Marcoules – Compagnie Générale des Eaux / Véolia Eau Montpellier – Barriquand – Société Niçoise d'Assainissement – Bondil Assainissement – Seirs TP – Société des eaux de l'Essonne – Farina – Assainissement 34 – Lyonnaise des Eaux Brie-Comte-Robert – Lyonnaise des Eaux Montgeron – Sevesc – Telerep France Véolia Propreté – SANI Casablanca – Bonna Sabla SNC – Sopreco – Compagnie Générale des Eaux Véolia Eau Rungis – Sud Est Assainissement Véolia Propreté – Gaz et Eaux – Télérep Méditerranée – Selfema groupe Pizzorno – Groupe des Eaux de Marseille – Astree Provence – Société Méridionale d'Environnement – Société des Eaux d'Arles – Sdei Rhône Saône – Sarp Méditerranée – Eav – Ville de Bourges – SNCF Direction Régionale de Lyon – Lyonnaise des Eaux Mougins – Seram – Gonnet Assainissement – ORTEC Environnement – SARP Nanterre – Chemins de Fer Fédéraux Suisse – Veolia Marne Aval – Laboratoire de Recherche Est Parisien ...