

Lean and Clean Opportunities in Canada

September 2011



Imagine the result

Overview

- ARCADIS Overview
- Global Network & Canada Presence
- Representative Automotive Clients
- Practice Specifics
 - Infrastructure
 - Environment
 - Buildings
 - Water
- Opportunities for Lean and Clean Processes within the Value Chain
- Training Needs/Capabilities
- Key Projects

Company Overview

ARCADIS delivers technical excellence and client satisfaction in consulting, design, engineering, urban planning, architectural and project management services.

We focus our services on four main business lines, each with their own strengths and strategies.

Infrastructure

Environment

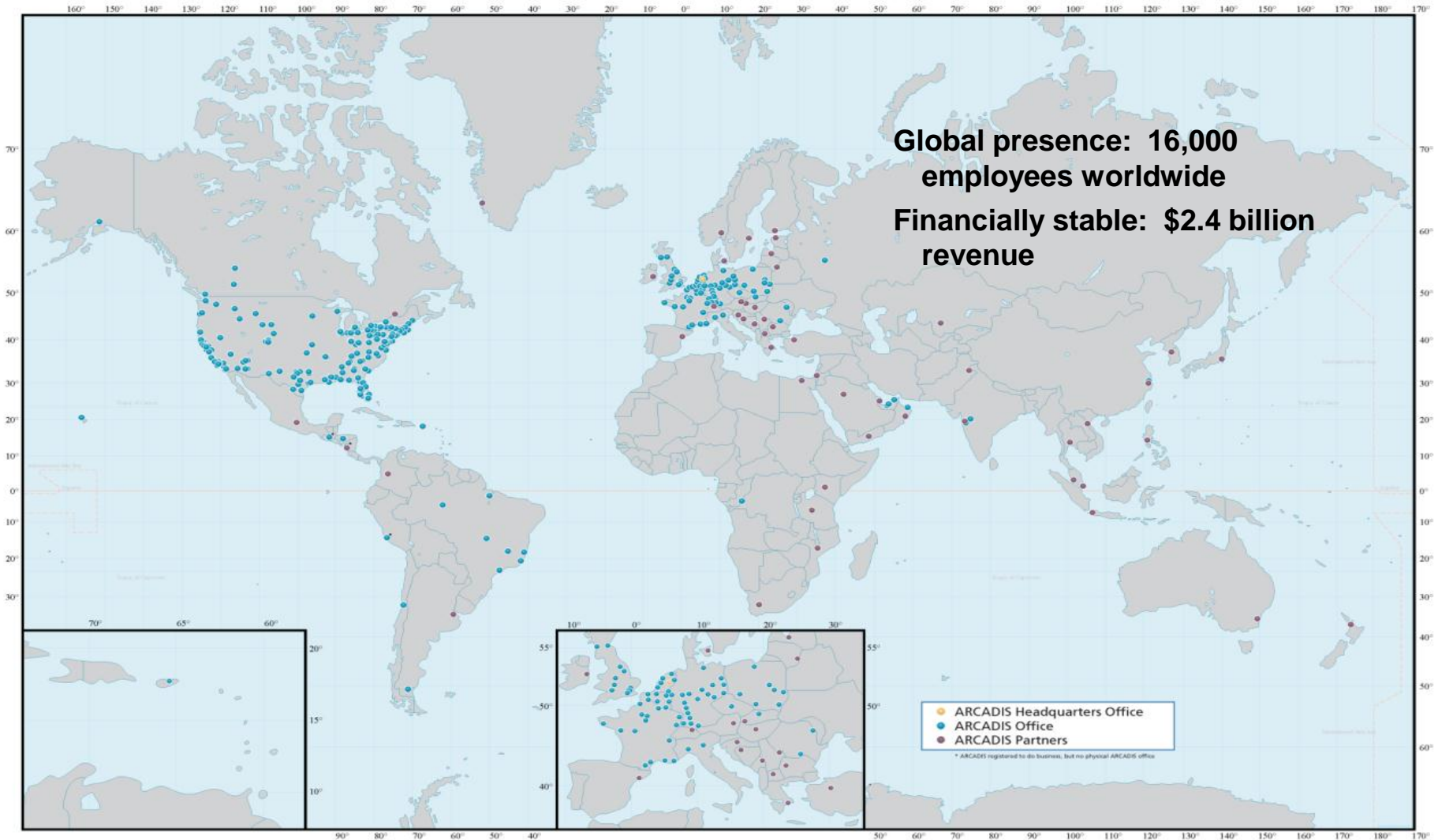
Water

Buildings



A Global Network Based on Strong Local Positions

ARCADIS worldwide offices



ARCADIS Canadian and Nearby Offices



- Active in Canada for over 10 years
- Staff with local regulatory experience and knowledge along with consulting and manufacturing experience

Representative Automotive Clients



DAIMLER

DENSO



TRW
Automotive



BRIDGESTONE



TOYOTA



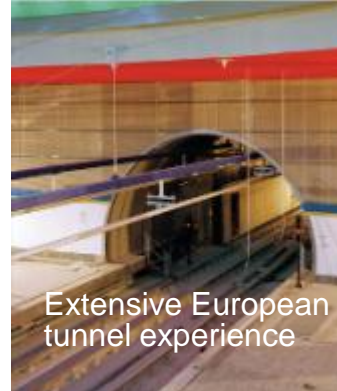
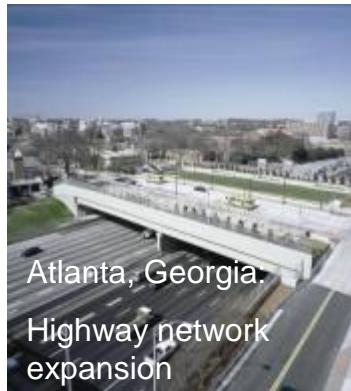
PACCAR

VOLVO



GOODYEAR

*ArvinMeritor*TM



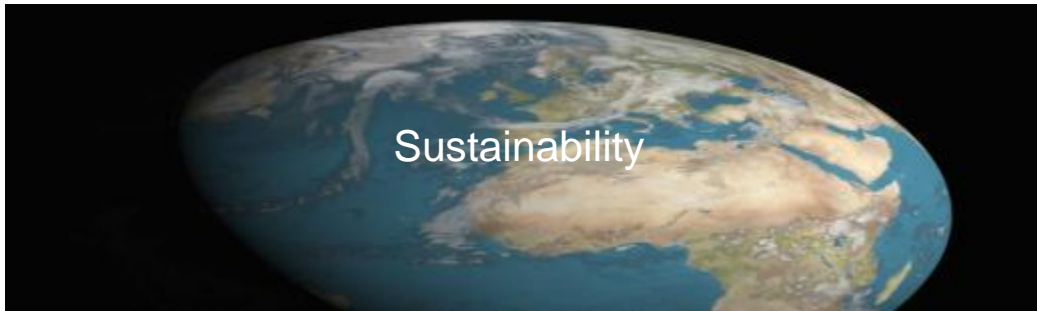
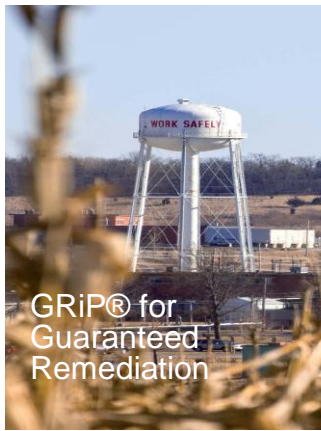
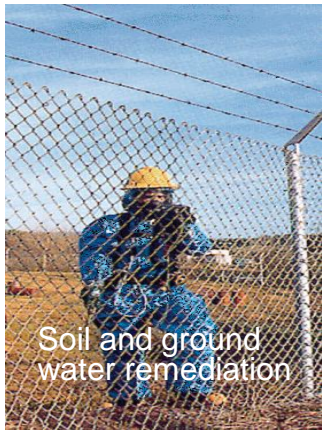
Infrastructure

- Roads
- Highways
- Bridges/Tunnels

Services

- Project Management/
Construction Management
- Design/Build
- Permitting/Planning
- Sustainability

Designing for the future



Environment

- Site Evaluation and Remediation
- M&A Support
- EH&S Compliance Programs
- Management Systems
 - ISO 9001
 - TS 16949
 - ISO 14001
 - OHSAS 18001
 - ISO 50001 (Energy)
 - ISO 26001 (Social Responsibility)
- Global Product Regulatory Affairs Programs
- Regulatory Management & Tracking
- Sustainability Services
- Carbon Management
- GRI Reporting
- Enterprise Information Management



Olympic Stadium
London 2012



Sustainable office
building in Belgium



All Phillips locations in
Netherlands & Belgium



Dutch locations for
DSM



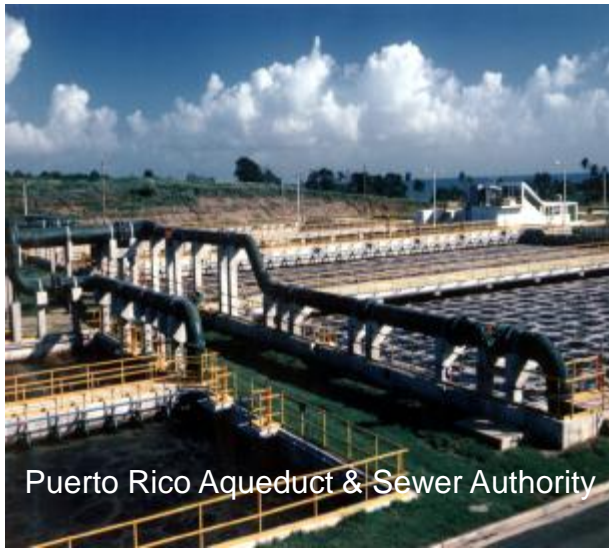
Buildings

- Project & Program Management Services

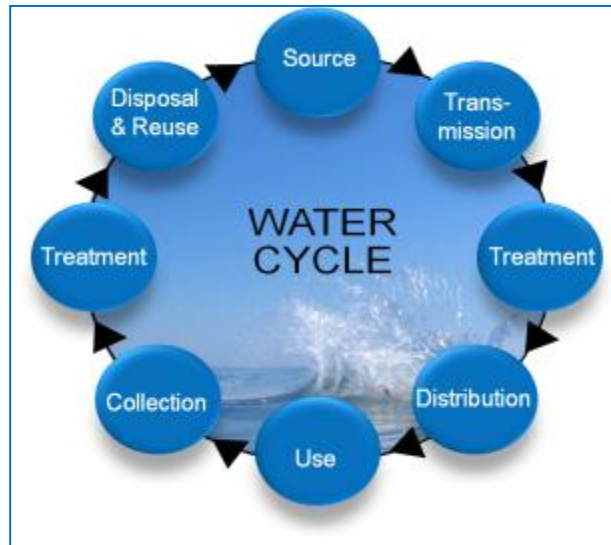
Services

- Architecture and design
Interiors
- Commissioning
- Program & Construction Management
- Buildings Sustainability (LEED®)
- Value Engineering
- Green Data

*Seamless global
project delivery*



Puerto Rico Aqueduct & Sewer Authority



Water

- Serving the Entire Water Cycle

Services

- Sourcing
- Transmissions
- Water treatment
- Distribution
- Use
- Collection
- Treatment
- Disposal and Reuse



New York DEP

Global Solutions for the Entire Water Cycle



Opportunities for Lean and Clean Processes within the Value Chain

Advisory

- Strategy – senior management
- Financial linkages
- Program development
 - Efficiency
 - Waste
 - Brand management
- Sustainability program development
- Voluntary reporting programs

Operations

- Energy
- Carbon management
Scope I,II, III emissions
- Renewables
- Material use efficiency
- Water
- Waste
- Buildings
- Compliance
- Green remediation

Products

- Life cycle assessment
- Environmental Product Declarations
- Product carbon labeling
- Materials of concern (MOC)
- Process integration with material engineering, product engineering, marketing

Supply Chain

- Waste
- Energy
- GHG
- Water
- Material efficiency
- Materials of concern (MOC)
- Environmental costs in the supply chain

Energy/Carbon management



Activities

- Energy / Carbon Foot Print Assessments
- Energy Management Systems Implementation
- Employee Training and Communication
- Emission inventories and reduction strategies
- Data management, reporting and verification
- Sector based policies and technical assessments
- Audit and Verification



Experience

- Chrysler Group, LLC
- CSX Transportation
- Akzo Nobel
- Owens Corning
- 22 Biomass facilities
- 30+ facilities for Canadian Voluntary Program
- UNEP emission inventories protocols
- Emission Credits Corp., Alberta, CN

Project Reference

- Pilot Energy Assessments for an automotive supplier in Canada
- Employee communication/training on energy, waste, water footprint reduction strategies
- Implementing Energy Management System (BSEN16001) for a heavy machinery equipment manufacturer

Global Product Regulatory Compliance



Activities

- Global Product Regulatory Compliance Support (EU, NAFTA, APAC, MEA)
- Supply Chain Management (communication, training etc.)
- Business Planning Support (New Product Review, Upstream Planning)
- Product Safety Support (toxicology, Life Cycle Analysis)
- Product Recall Support (quarantine, Root Cause Analysis, product tracking)
- Material Content Reporting (IMDS) Support



Experience - Sectors

- Automotive Sector
- Consumer Products
- Mining and Minerals
- Medical Devices
- Pharmaceuticals
- General Manufacturing



Project Reference

- Global Product Regulatory Compliance Program for an OEM Parts Supplier to support regulatory compliance, global regulatory surveillance, supplier training and communication, IMDS Support, , Product Labeling, New Product Reviews and Compliance Assessments

Safety and Environment



Activities

- Integrated ISO 14001/ OHSAS 18001 Implementation
- EH&S Compliance Programs
- EH&S Technical Support (to support staffing reductions/consolidation)
- Regulatory Tracking
- Employee/Sr. Management Training on Regulatory and EMS areas
- Contractor Management Programs



Experience - Sectors

- Automotive
- Consumer Products
- Medical Devices
- Pharmaceuticals
- General Manufacturing

Project Reference

- ARCADIS developed a user-friendly contractor safety program to assist the client's organization with contractor health and safety compliance training and communication worldwide.
- Supporting the establishment, auditing, and certifications of Environmental, Health and Safety (EHS) Management Systems that met all ISO 14001 and OHSAS 18001 requirements for Cummins Engine.

Project Reference

- Acting as the plant environmental specialist for a major automaker to support at manufacturing facilities supporting regulatory and EMS activities including employee and contractor training

Training Needs/Capabilities

Sector Experience	Waste	Waste-water	Air	Energy	Product Compliance	Management Systems (ISO 9001/ ISO 14001/ OHSAS 18001 including Lean Manufacturing)	GHG Reporting	Green Remediation	Sustainability
Automotive	X	X	X	X	X	X	X	X	X
Utilities	X	X	X		X	X	X	X	X
Chemical	X	X	X		X	X	X	X	X
Oil and Gas	X	X	X		X	X	X	X	X

- Dedicated Technical Knowledge and Innovation (TKI) Group within ARCADIS to understand regulatory and best practice needs to develop training programs for organizations
- Training Programs customized to organization's needs and integrated within existing programs i.e. lean manufacturing activities, kaizen events, town hall events, safety/environmental talks etc.
- Programs conducted are both web-based and class room training sessions
- Training times range from 1-hr to multiple day sessions depending on topics
- Training is tracked by employee/department along with certificates provided to support CEU requirements in many cases

Plant Environmental Compliance and Management System Onsite Support



- Onsite Environmental Specialists for Assembly and Powertrain facilities
- US, Canada

Activities

- Environmental Compliance Support
- Training of employees and management on regulatory and EMS activities
- Management Systems Support
- Utilization of Lean Manufacturing Principles (kaizen events, single point lessons etc) for communication and training

Outcome

- Robust Compliance and Management System Program
- Continual Improvement Activities using a systematic approach
- Focused and effective training to ensure retention of knowledge

Regulatory Training Webinars



- Webinars to address regulatory and best practices to share within organizations
- US, Canada, Mexico

Activities

- Technical Webinar Sessions for internal employees, organizations and suppliers
- Classroom Auditor training sessions
- Computer Based Training for plant floor employees

Outcome

- Managing on-going training needs
- Educating and engaging employees on key issues
- Improved retention of staff
- Integrated training with other departments

Management Systems Implementation



- Implementing ISO 14001 at Automotive and Truck Manufacturing Operations
- US, Canada, Mexico

Activities

- Implementing ISO 14001 integrated with Quality Management Systems at manufacturing facilities
- Conducting training on awareness and regulatory requirements to meet the standard
- Developing processes, procedures and work instructions for employees
- Conducting internal auditor training and supporting on internal audits

Outcome

- Successful Implementations resulting in registrations
- Robust objectives and targets to reduce waste, water, chemicals and energy
- Trained employees with greater environmental awareness.

Water Reduction Assessments and Training for Automotive Facilities



- ARCADIS developed, led and supported programs to reduce water use and improve efficiency at both Assembly and engine plants.
- US, Canada and Mexico

Activities

- Reduce total water consumption
- Investigate opportunities for reductions/reuse in RO reject water, overflow rinses for body wash and phosphate
- Conduct kaizen events, employee training and communication on water issues

Outcome

- Targets set on a per unit basis
- Multiple programs investigated and implemented
- Small programs/projects add up
- Area teams drove improvements
- Significant reductions in water consumption

Assembly Plant HVAC Energy Losses



- Assembly Plant program to reduce HVAC energy losses. ARCADIS part of a Cross Functional Team
- Ontario

Activities

- ARCADIS support through training and communication development along with team participation
- Electricians, along with management, surveyed and evaluated every air house (Heating/Ventilation unit)
- Determined purpose it served for production, for a given period of time in the day

Outcome

- Assessment to identify needs versus losses
- Worksheets to calculate daily shutdown savings based upon air house horsepower/wattage demand and serve as the plan, tracking document and report.
- Developed Communication tools for employee training/engagement

ARCADIS Differentiators

Global Provider with local support

Technical Experience and Leadership on Automotive Issues

In-plant / hands-on experience in implementing projects and comprehensive management of environmental, energy and sustainability programs

Long-term experience in top-level advisory relationships (benchmarking) across market sectors

Key Contacts

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A silhouette of a person sitting on a large rock by a body of water, holding a fishing rod. The scene is set during sunset or sunrise, with the sky and water reflecting the warm, orange light. The person's reflection is visible in the water below them. The text "Imagine the result" is overlaid in white on the image.

Imagine the result