

At  
a glance

**SYSTRA**  
CANADA 



TRANSIT



INTERCITY &  
HEAVY RAIL



ROLLING STOCK

**SYSTRA**



**SYSTRA Canada** is part of SYSTRA, an international consulting and engineering group, a world leader in the provision and design of transportation solutions.

Our service offer is grouped into three markets.

### OUR MARKETS

**Transit:** focusing on the Canadian passenger mobility market.

**Rolling Stock:** offering turnkey solutions for passenger cars, wagons and locomotives.

**Intercity & Heavy Rail:** providing our clients with specific conventional rail solutions for transportation of both passengers and freight/mining resources.

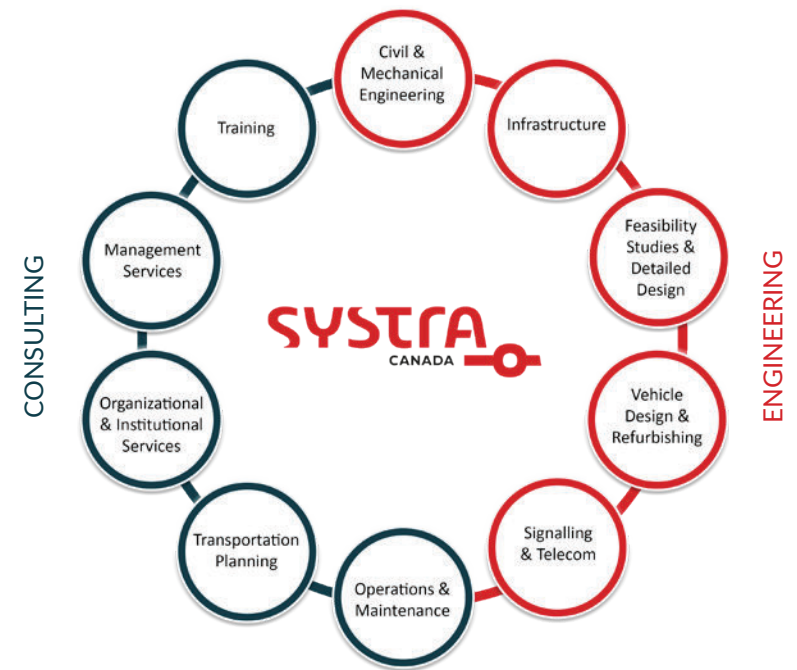
## SYSTRA CANADA

**SYSTRA Canada is an engineering and consulting firm whose primary focus is to offer transportation solutions for passengers or goods.**

With its main office in Montreal (Quebec) since 1991, SYSTRA Canada delivers innovative consulting, engineering and project management services in all fields of transportation, including track and infrastructure, rolling stock, railway operations, signalling and telecommunications, economic and financial studies, marketing, institutional and management consulting, as well as support services.

SYSTRA Canada has successfully carried out over **900 projects all over the world.**

### TRANSPORTATION SECTOR





## TRANSIT

**SYSTRA Canada's** Transit division focuses on delivering the full range of expertise and solutions for urban mobility, whether by rail or any other modes, including:

- Commuter Rail;
- Mass rapid transit;
- Light-rail transit;
- Bus rapid transit;
- Electric buses.



## TRANSIT

*Urban Mobility*

**Our Transit division covers all disciplines related to the mass transit sector.**

Our team's expertise covers the full portfolio of competencies to assess, shape and deliver efficient, optimized and innovative passenger transportation solutions, whether by assisting public authorities along the full cycle of definition and delivery of a project, or through other delivery models (including PPP/ Design & Build).

**Our teams have the know-how to advise you at every stage of your project:**

- Transport planning and preliminary studies;
- Infrastructure (including specific knowledge of North American and international standards);
- Rail systems design and systems integration;
- Electrification;
- Safety and security;
- Testing and commissioning;
- Operation and maintenance;
- Design and optimization of bus charging infrastructure.





## INTERCITY & HEAVY RAIL

Since 1991, **SYSTRA Canada** has developed a specific expertise adapted to the conventional and heavy sector based on its knowledge of North American standards and best practices.



## INTERCITY SOLUTIONS

- Ridership forecasting;
- Operating, maintenance and asset management strategy;
- Identification of sustainable solutions;
- Procurement strategy;
- Innovative design solutions.

## INTERCITY & HEAVY RAIL

*Freight & Mining*

**SYSTRA Canada offers a comprehensive range of services for the planning, engineering, implementation and operation of freight and mining railways.**

**Scoping, Pre-feasibility and Feasibility Studies:** from scoping to investment grade studies (technical and financial).

**Engineering, Procurement and Construction Management Services:** conceptual design of railways, alignment optimization for cost reduction and operational efficiencies, detailed design, contracting strategy services (tendering, evaluation and award), construction supervision, full EPCM contracts.

**Technical Services:** increasing railway capacity (track and bridges) and axle loads, inspection and audit services, rolling stock and workshop planning, design and specifications, planning and engineering of railway signalling and telecommunications systems, development of maintenance and engineering systems and manuals, assessment of existing operations with the objective of reducing OPEX by optimizing the use of existing assets.

**O&M Engineering and Asset Management:** capacity planning and analysis, rules development, railway safety audits, strategic transportation planning, operational and maintenance support, asset management strategy, training.

**Institutional:** training and technical assistance, organizational reform, market and traffic assessment, railway service costing and tariff setting.





## ROLLING STOCK

**SYSTRA Canada's** strong reputation for rolling stock engineering is based on more than 250 projects successfully completed since 1991.

These include projects for passenger, freight and mining railways in Canada and around the world for passenger cars, locomotives, freight wagons, and rail-bound maintenance-of-way equipment.

## ROLLING STOCK

### *Rail Vehicles*

**SYSTRA Canada provides a unique set of rolling stock-related services, from engineering to management of procurement and execution of refurbishing and rehabilitation programs.**

We provide expert preparation of technical specifications, management of tenders, evaluation of proposals, contract negotiations and assignment, manufacturing supervision, supervision of factory and site tests and operating strategies, SYSTRA Canada also provides turnkey solutions; from detailed design of vehicle modifications or repair, up to full refurbishment of rail vehicles.

**Our expertise in Rolling Stock includes:**

- Turnkey performance of overhaul/ refurbishment;
- Design and technical specifications of rolling stock;
- Procurement services and quality inspection;
- Reliability-based maintenance for locomotives;
- Design and planning for workshops and maintenance programs;
- Management systems for fleet maintenance equipment;
- Technology or feasibility assessment.

SYSTRA Canada has also developed a renowned expertise in the rehabilitation of existing rolling stock and takes on “turnkey” prime contracting roles.





## GLOBAL PRESENCE

**SYSTRA Canada** is recognized world-wide for its comprehensive railway expertise, whether in the freight and mining sector, promoting its knowledge of North American standards and rules, or in passenger mobility, offering a full set of expertise and know-how.

# 900

SYSTRA Canada projects  
all over the world.

## SYSTRA CANADA – INDUSTRY LEADERSHIP

**Since 1991, SYSTRA Canada has successfully completed  
hundreds of projects around the world.**

SYSTRA Canada's mission is to provide innovative, reliable and efficient solutions tailored to clients' objectives, in Canada and around the world. We live beyond our values: integrity, respect, excellence, versatility and confidence.

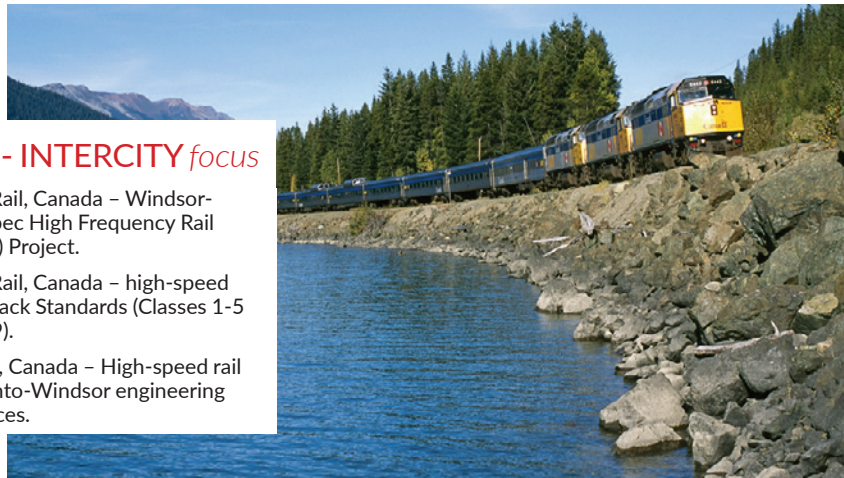


## PROJECTS: OUR THREE MARKETS



### IHR - FREIGHT & MINING *focus*

- Société de développement autochtone de la Baie James/Cree Development Corporation, Quebec – La Grande Alliance Project. Feasibility study for the 450-km rail component.
- Simandou project, Guinea– Client's engineer for the 650-km railway.
- QC Rail – Project Manager for the feasibility study of the 360-km railway between Baie Comeau and Dolbeau.
- Boké Railway, Guinea – EPCM for Multi-user Expansion Project.
- North-South Rail – 2,400-km new freight and passenger network in Saudi Arabia.
- Baffinland Iron Mines, Quebec – Feasibility through detailed design of 150-km Arctic railway on permafrost.
- Preliminary Engineering Study for a 300-km Northern Quebec Multi-user Railway Link.
- Kerail Project, Quebec – EPCM for link between Knob Lake & the Timmins Mine.



### IHR - INTERCITY *focus*

- VIA Rail, Canada – Windsor-Quebec High Frequency Rail (HFR) Project.
- VIA Rail, Canada – high-speed rail track Standards (Classes 1-5 & 6-9).
- MTO, Canada – High-speed rail Toronto-Windsor engineering services.



### TRANSIT

- Metrolinx, Canada – GO Expansion Program Delivery Partner. A multi-billion-dollar expansion and upgrade to the commuter rail network in the Greater Toronto and Hamilton Area.
- Ontario Line Technical Authority, Canada – Rail Systems expertise for a new fully-automated subway line in Toronto.
- RTC, Quebec City, Canada – Tramway and electrification of a bus fleet.
- STM, Canada – Feasibility Study. Electrification of the Bellechasse bus garage.
- CDPOi, Canada – Greater Montreal's REM project and the REM de l'Est expansion project.
- City of Montreal, Canada – Montreal tramway study.
- Feasibility study and impacts - Aerial tramway, Laval, Quebec, for STL.



### ROLLING STOCK

- Metrolinx, USA – Turnkey refurbishment of bilevel coaches for in Los Angeles.
- Rocky Mountaineer, Canada – Refurbishment of "Goldleaf" bi-level dome cars.
- VIA Rail, Canada – Fleet renewal consulting services.
- EXO, Canada – Locomotive procurement technical support.
- Capital Metro, USA – LRV procurement technical services in Texas.
- Ontario Northland Rail, Canada – Accessible passenger car interior design.
- AMT, Canada – MR90 series technical specifications.
- Nippon Sharyo, Japan – Structural Engineering Design.
- Compagnie des bauxites de Guinée – Upgrade/conversion of ore wagon fleet.
- VIA Rail, Canada – Electrical and mechanical work for overhaul of diner cars.





## SYSTRA GROUP IN NUMBERS

Globally, the SYSTRA group is the signature team for transportation solutions; a world-leading engineering and consulting firm.







[infocanada@systra.com](mailto:infocanada@systra.com) | [www.systracanada.com](http://www.systracanada.com)

#### MONTREAL HEAD OFFICE

1100, René-Lévesque Blvd. W.  
10<sup>th</sup> Floor  
Montreal, Quebec, H3B 4N4  
+1 514 985 0930

#### TORONTO OFFICE

140 Yonge Street  
Suite 301  
Toronto, Ontario, M5C 1X6  
+1 647 326 4932



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