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Industry Capabilities and Services

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Industry Capabilities and Services

Space Communication technologies have provided the world with satellite communications and global satellite navigation infrastructures that have become strategic assets for the economic, political, and military sectors of countries around the world. Their omnipresence in our everyday lives and their significant role in world commerce, security and humanitarian operations such as Search and Rescue have made telecommunications and global navigation satellites indispensable.

Competition with fiber-optic systems for point-to-point communications and cellular telephone systems has led space systems to concentrate on functions not easily served by these competing systems including mobile communications in remote regions, broadcasting, storage and forward transfer of data. Canadian industry has successfully captured parts of this market by developing well renowned components and/or complete systems. More opportunities are expected in this very specialized niche market to provide broadband store and forward communications capabilities via satellite.

Several Canadian companies have developed space communication technologies and delivered related products and services that address market niches at the sub-system and component levels of space-borne systems (EMS, COMDEV) and ground/portable Tx/Rx subsystems and related components (NORSAT, EMS, IMT, NOVATEL, SED). In addition, one company (Telesat) is a well-established provider of satellite operations services and consultancy.

The following two tables list the Canadian space industry's technology capabilities specific to space communications.

Company	Space Communication Antenna	
CIS Scientific	X	
COMDEV	X	X
CPI Canada	X	
EMS	X	X
IMT	X	X
MDA	X	
Norsat	X	
Nortel		X

Novatel	X
Passat	X
SED	X
Telesat	X
Xiphos	X

	Technology Capabilities	World Renowned	Unique within Canada
	Antennas & Beam Forming Networks	X	X
	Fixed, Mobile & Portable Terminals	X	
	Inter-Satellite Links (RF & Optical)		
EMS	Micro-Electronic & RF Components	X	X
	On-board Processing, Switching & Storage	X	X
	Signal-Data Switching, Modulation & Compression	X	X
	Telemetry, Tracking & Control	X	
	Design, Assembly, Integration, and Testing of Space Systems and Subsystems/Payloads	X	
	SAW Band-Pass Filters	X	X
	RF Converters	X	X
COM DEV	Multiplexers, Diplexers, Circulators & Cavity/Dielectric Filters	X	X
	Advanced Microwave/Ferrite Switches and Switch Matrices/Assembly	X	X
	High-Speed Digital Modulators/Up-Converters	X	
	BEAMLINK Processor	X	X

OISL Terminal			
		Advanced Pointing Mechanisms	X X
CIS		Electro-Magnetically Actuated MEMS	X
CPI Canada Inc.		W-Band Vacuum Tube Power Amp	X X
IMT		Portable Ka-band Ground Terminal Antenna	X
MDA		System Design of Satcom Systems	
		Ground Segment	X
NORSAT		Ka-Band Portable Ground Terminal	X
		Outdoor Units & Ground Station Components	X
		Ground Reference Network Sub-Systems	X X
NOVATEL		Mobile/Personal Receivers	X
		GPS-MEMS	X
PASSAT		Broad-Band Laser Amplifiers	X X
		Non-Linear Adaptive Phase Conjugation Mirrors	X X
SED		Digital Radio Management & Uplink Systems	X
		Ground Stations (Design & AIT).	X
		Satellite Communication Systems Design, Analysis, and Operations	X X
		Broadband Satellite Technology	
Telesat		On-Board Processing	
		IP-Based Satellite Technologies	X
		Digital Video Systems	X
		High-Speed Internet	X
Xiphos		XipLink SCPS-TP	X
		Q4 Network Control Node	X

