THINK
INNOVATION

Canada in the Network Age:
Building an Infrastructure for Innovation and Inclusion

Presentation to
Intelligent Cities 2002 Conference
October 1, 2002

binder.michael@ic.gc.ca

We Are In The Network Age

"Today's technological transformations are intertwined with another transformation - globalization - and together they are creating a new paradigm: the network age."

United Nations Human Development Report, July 2001

- Instant access to knowledge
- Transforming business
- Borderless, global economies
- New ways of citizen – government engagement

"Our objective should be no less than to be recognized as one of the most innovative countries in the world."

Speech from the Throne, 2001

A National Vision

"Make the information and knowledge infrastructure accessible to all Canadians, thereby making Canada the most connected nation in the world."

Speech from the Throne 1997

… Set the Stage

Federal Policies in the Marketplace

Fostering a Competitive and Innovative Industry

- Competition introduced into all telecommunications market segments
- Continued deregulation
- International market access
- New, Innovative Services (wireless, satellite, digital TV & radio)
- R&D Support
- Tax Incentives (corporate rates, stock options, capital gains)

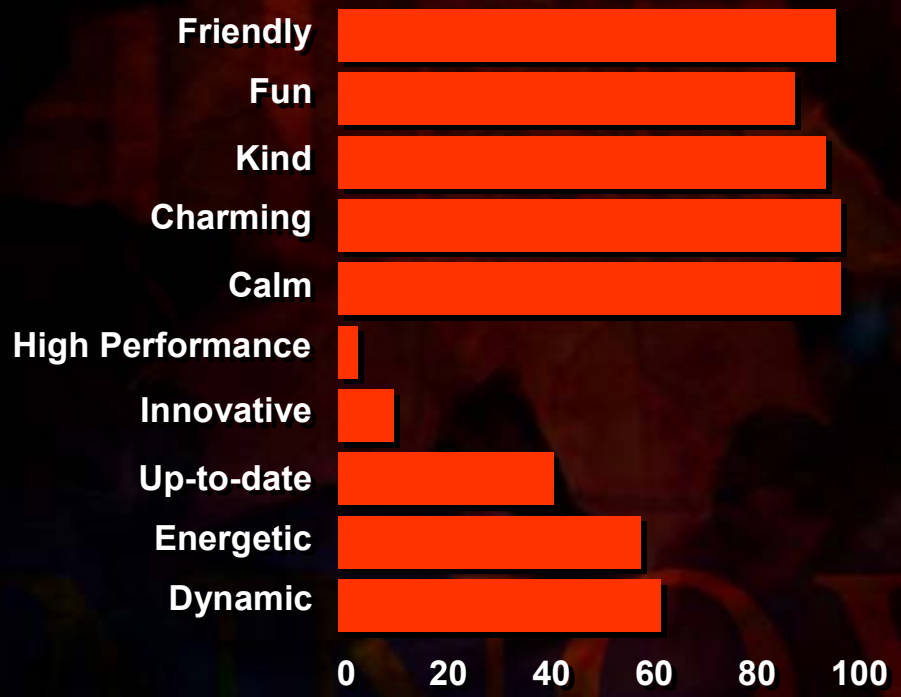
connecting canadians

Programs for Innovation and Inclusion

- *Canada Online*
- *Smart Communities*
- *Canadian Content Online*
- *Electronic Commerce and Privacy*
- *Canadian Governments Online, and*
- *Connecting Canada to the World*

Our Image

Burson Marstellar Study
U.S. – Perceptions of Canada



Source: Young & Rubicon Brand Asset Valuator 1999

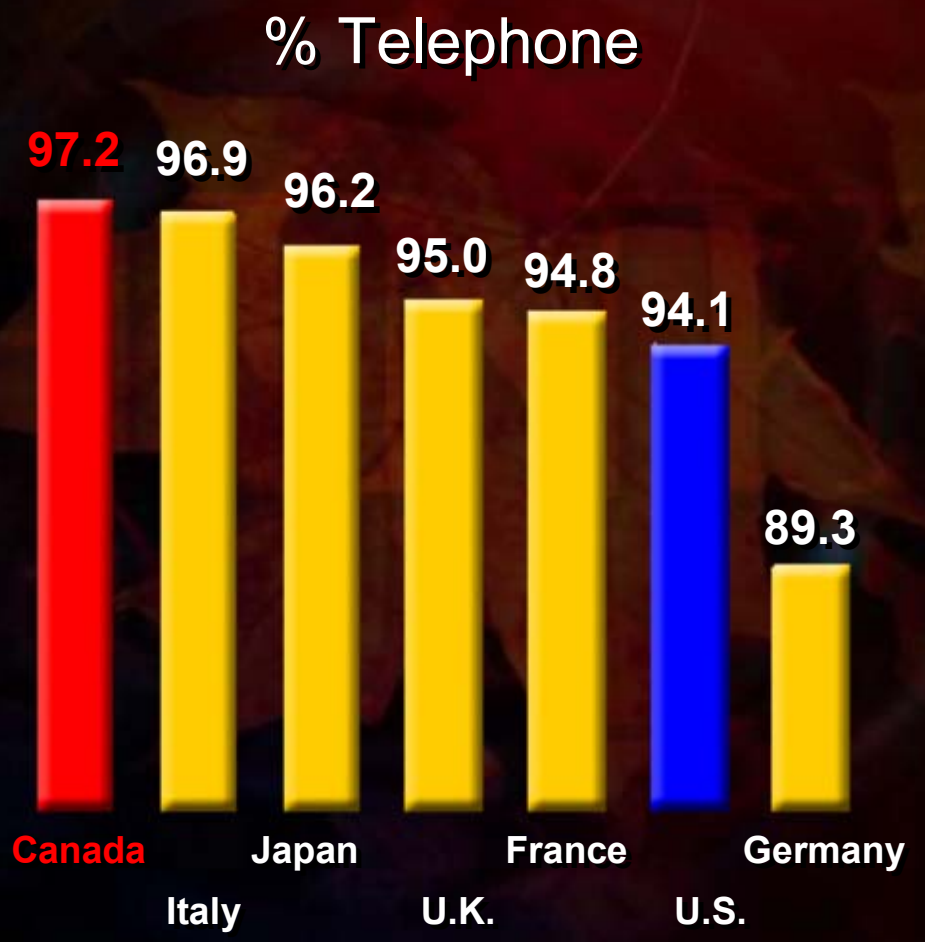
The Reality

Connectedness 2001 Ranking	Competitiveness 2001 Ranking
U.S.	U.S.
Canada	**Canada**
U.K.	U.K.
Germany	Germany
Japan	France
France	Japan
Italy	Italy

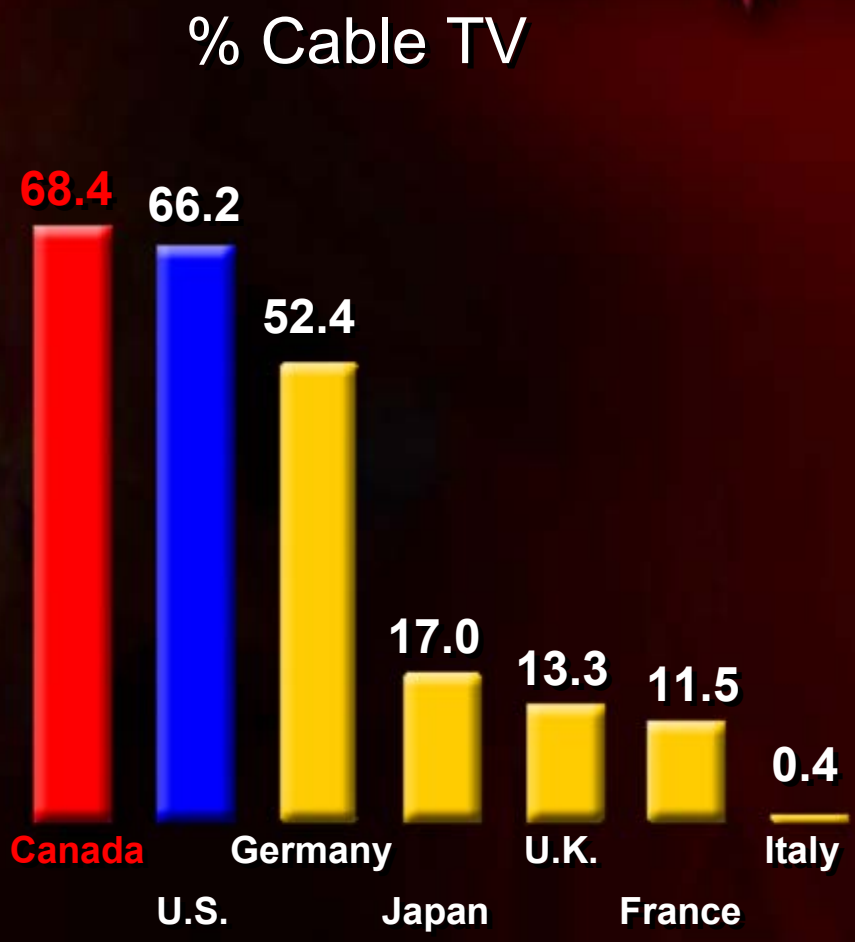
Source: Conference Board, 2002

Source: World Economic Forum,2001

Highest Household Penetration Rates



Source: World Telecommunication Indicators, ITU March 2001, based on 1999 data



Source: OECD Communication Outlook 2001, based on 1999 data

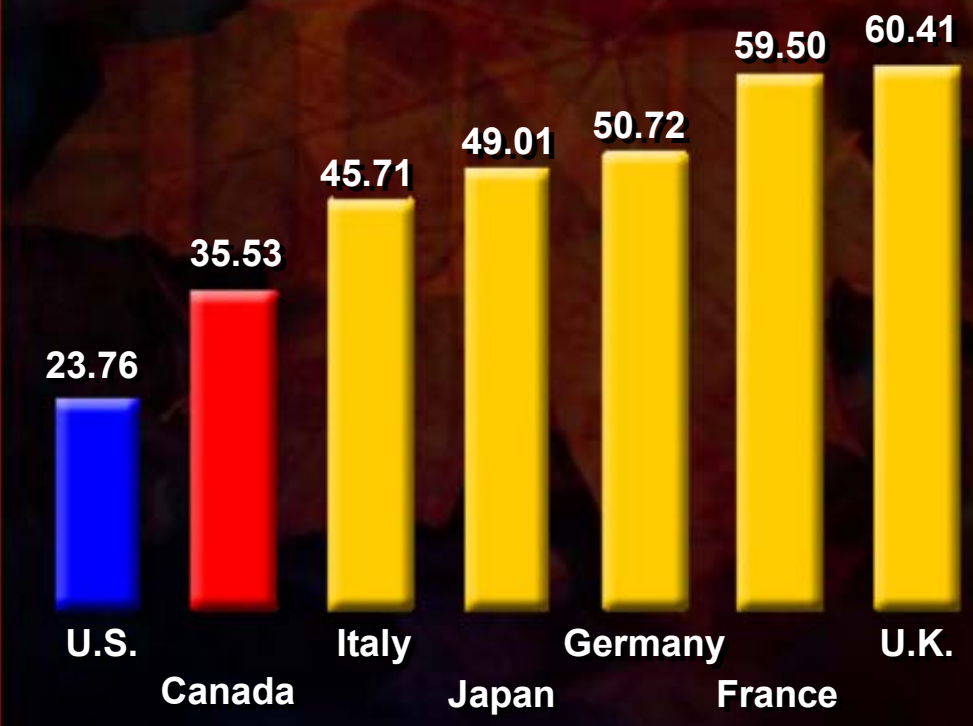
Among Leaders in Telephone Affordability

Source: OECD Communications Outlook, 2001 (August 2000 data), in US $ PPP

Affordable Internet and Wireless Service

Internet Access Charges*

Based on PPPs Peak Rate 40 hrs Online/Month U.S. $

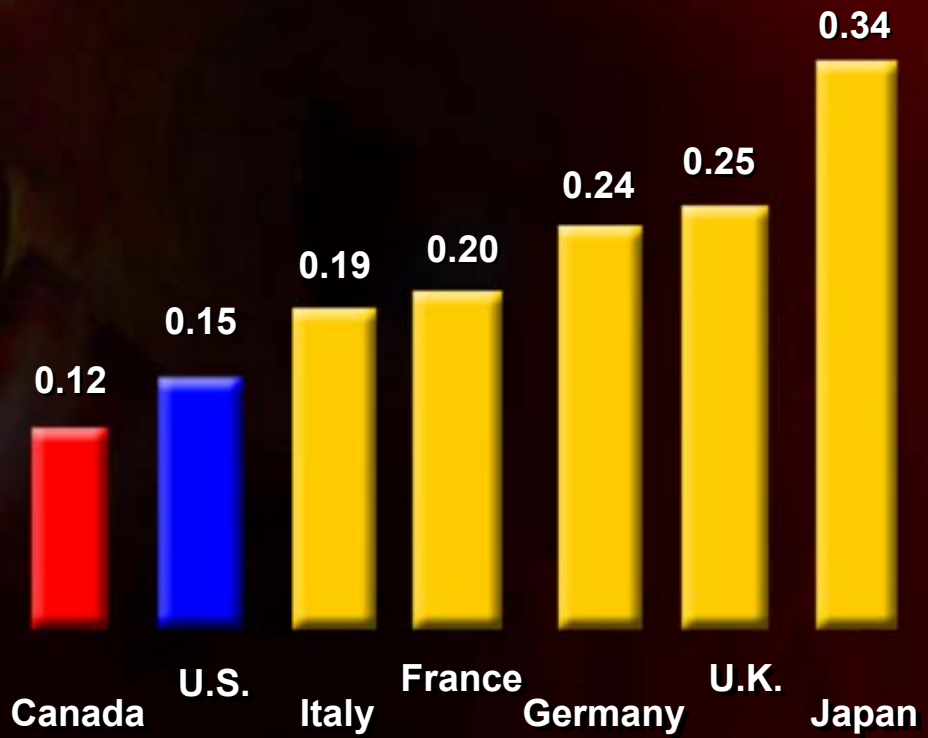


* Includes PSTN fixed charge, PSTN usage charge, and ISP charge.

Source: OECD Communications Outlook 2001, September 2000 data

Wireless Communication Costs

Revenue per minute*, 1Q 2002 in U.S.$



* Proxy for pricing, revenue per minute is calculated by dividing monthly voice average revenue per user by minutes of use.

Source: Merrill Lynch, Wireless Matrix - 1Q02 June 7, 2002

Canada's *Smart Communities*

Scope

- 12 demonstration projects
- 100 communities with approximately 1.9 million citizens directly affected
- Industry Canada provided nearly $55M over three years
- $75M in matching funds by local communities
- Almost 250 project partners involved
- More than 90 smart services in total (e-health, e-learning, e-business, GOL, culture/heritage on-line, on-line social services, virtual courtrooms, and e-tourism)
- All will be intensive users and demonstrators of broadband connectivity

"Smart Communities help put Canada on the path to becoming one of the most innovative countries in the world."

Allan Rock, Minister of Industry
Smart Communities: Empowering Canadians, 2002

"Learning Laboratories"

BC: The SMART CHOICES Project, *"inform, involve, and inspire!"*

- improved community services — community portal to deliver one-stop shopping
- environmental benefits to reduction of traffic congestion — telework

Calgary: INFOPORT™ Community Empowerment Project, *CONNECT Calgary*

- integration and better access to social services for people at risk — connected and networked social services agencies and wired drop-in centres

Saskatchewan: The Headwaters Project, *"connecting the North to the future"*

- a marketplace for local artisans and craftspeople — training in the advantages of e-commerce and e-banking to establish credit rating for entrepreneurs

Labrador: Technology on Top of the World©, *SmartLabrador*

- improved access and quality of health care — video-based diagnosis and medical consultations
- savings (time and money) to provincial justice system— video-conference virtual bail hearings

Aboriginal: K-net, *"re-establishing their relationship with Canada and the world"*

- retention of students within communities without emotional and financial hardship of moving to large centres — full Grade 9 program on-line

Stay tuned …

- **Sm@rtCapital**
  with Brian Cavan

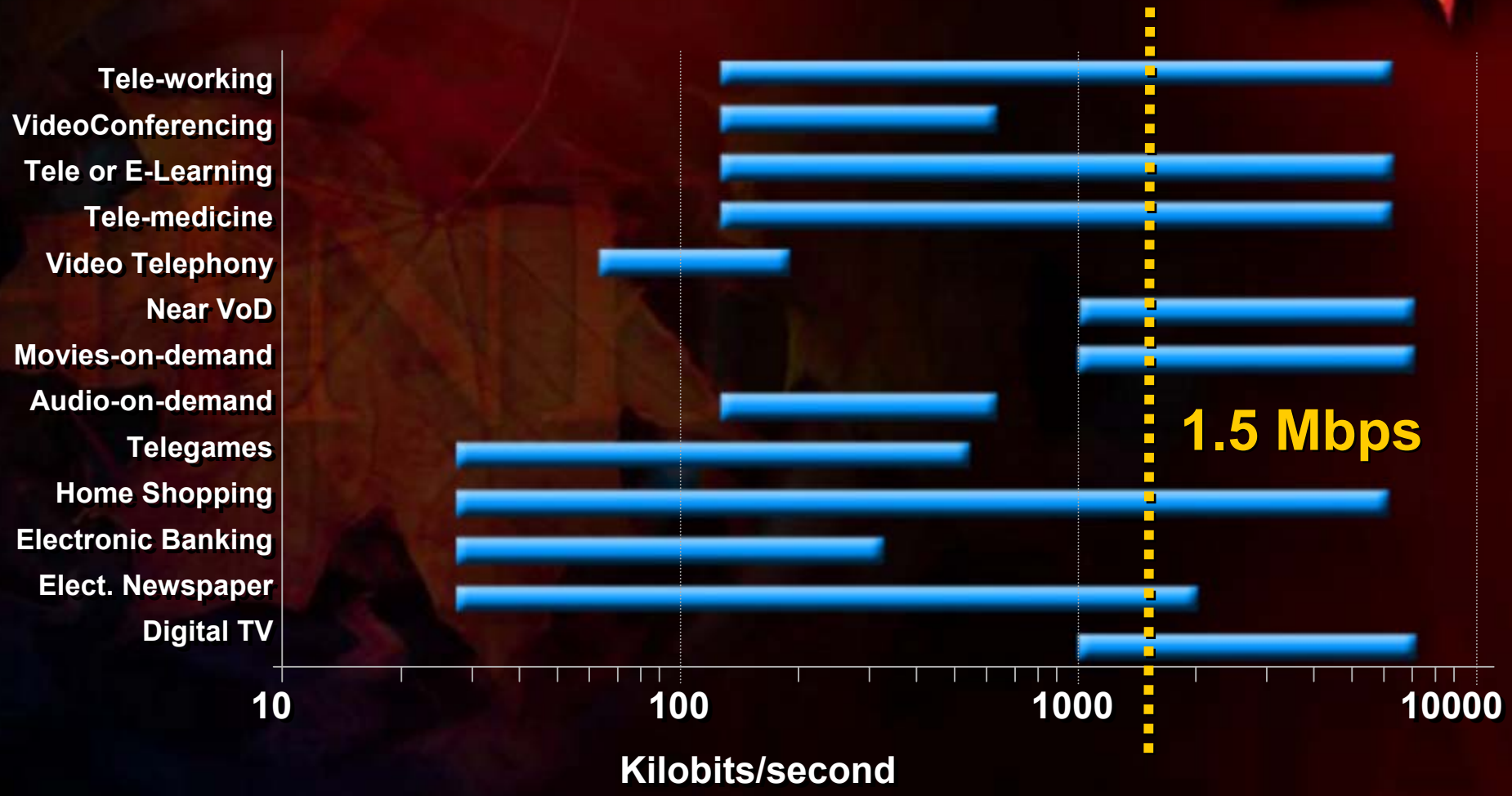
- **Upper Canada Networks**
  with Vic Allen

Tremendous Success in Basic Connectivity

- # 1 in G7 in Internet use (ITU, 2000)
- # 2 (after US) in Connectedness (Conference Board, 2002)
- Amongst lowest communications costs in G7 (OECD, 2000)
- All schools (15,600) and libraries (3,400) connected
- 8,800 Community Access sites
- Acknowledged as world leader in R&D network – CA*net4
- # 1 in GOL (Accenture 2001, 2002)

…Now Need to Build on This

More Capacity and Speed Required



Source: PlannedapproachInc.com

To Deliver New Services, Applications & Content

E-Learning - *learning anywhere, anytime*

E-Health - *saving lives and money through networking*

E-Commerce - *supporting new ways of doing business*

E-Government - *fully engaging all citizens*

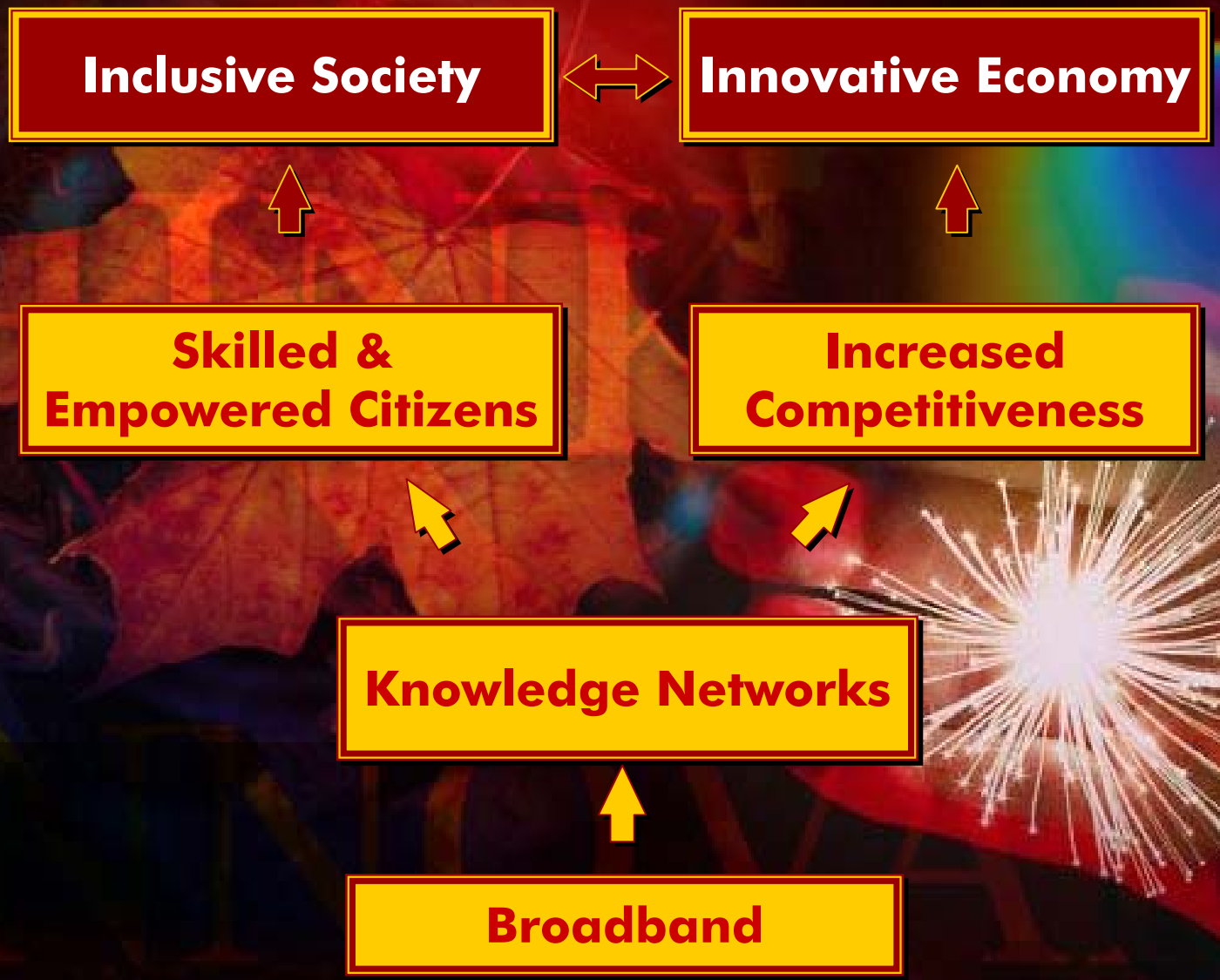
E-Meetings - *virtual face-to-face interaction*

E-Content - *entertainment and information to the desktop*

E-Research - *exponential improvements in research capacity*

… And to Strengthen Canadian Productivity

Broadband is the Next Step



Gains from Broadband Deployment

Increased broadband deployment will lead to a $5.4 Trillion gain in GDP in the US over the next 10 years

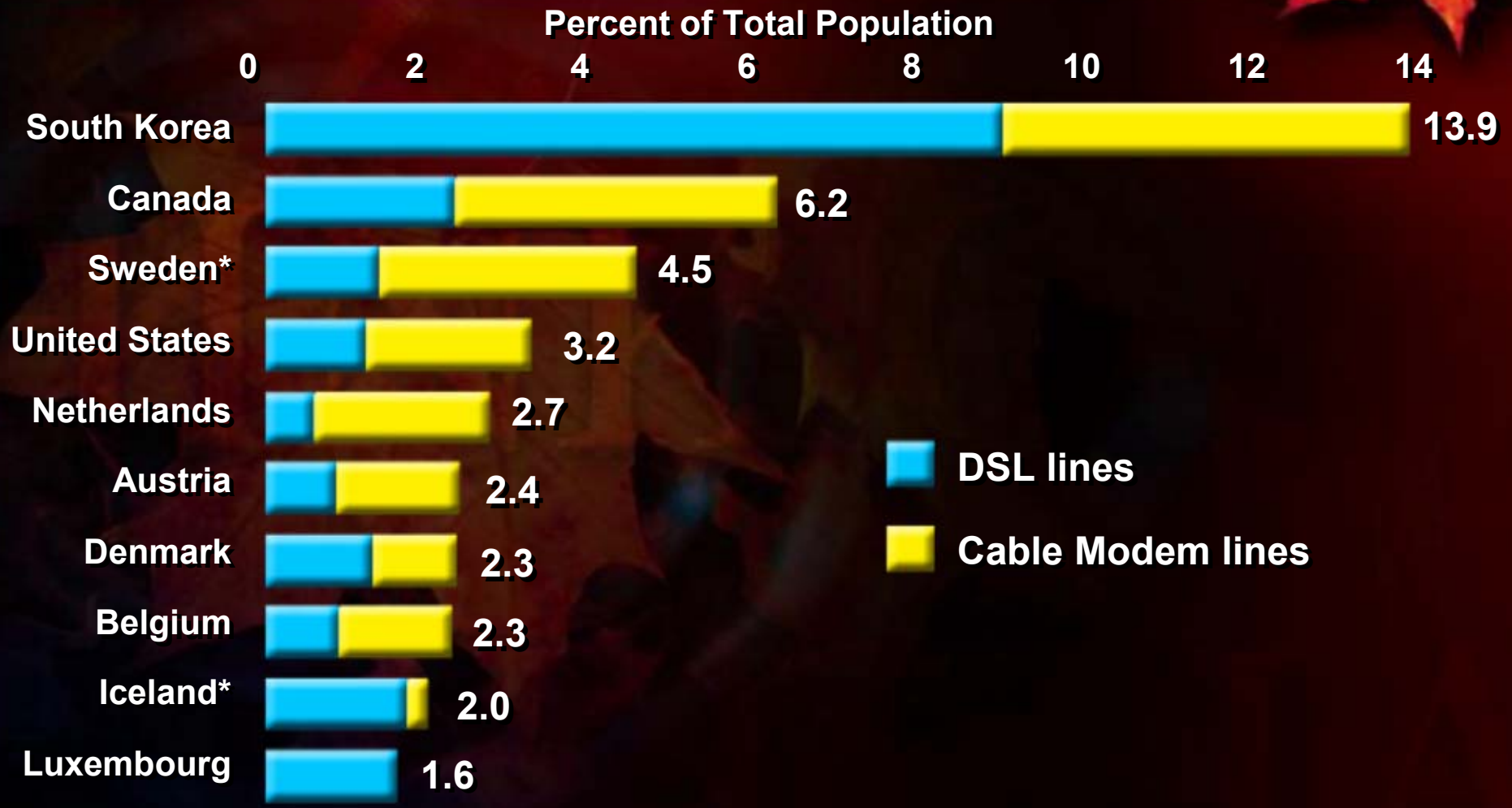
- Manufacturing: US$ 889 B
- Retail: US$ 772 B
- Healthcare, Social Assistance: US$ 740 B

Increased broadband deployment will mean more than 13 million more jobs in the US

Source: Gartner Dataquest, *The Payoff of Ubiquitous Broadband Deployment*, July 1, 2002

… Spread Throughout Economy

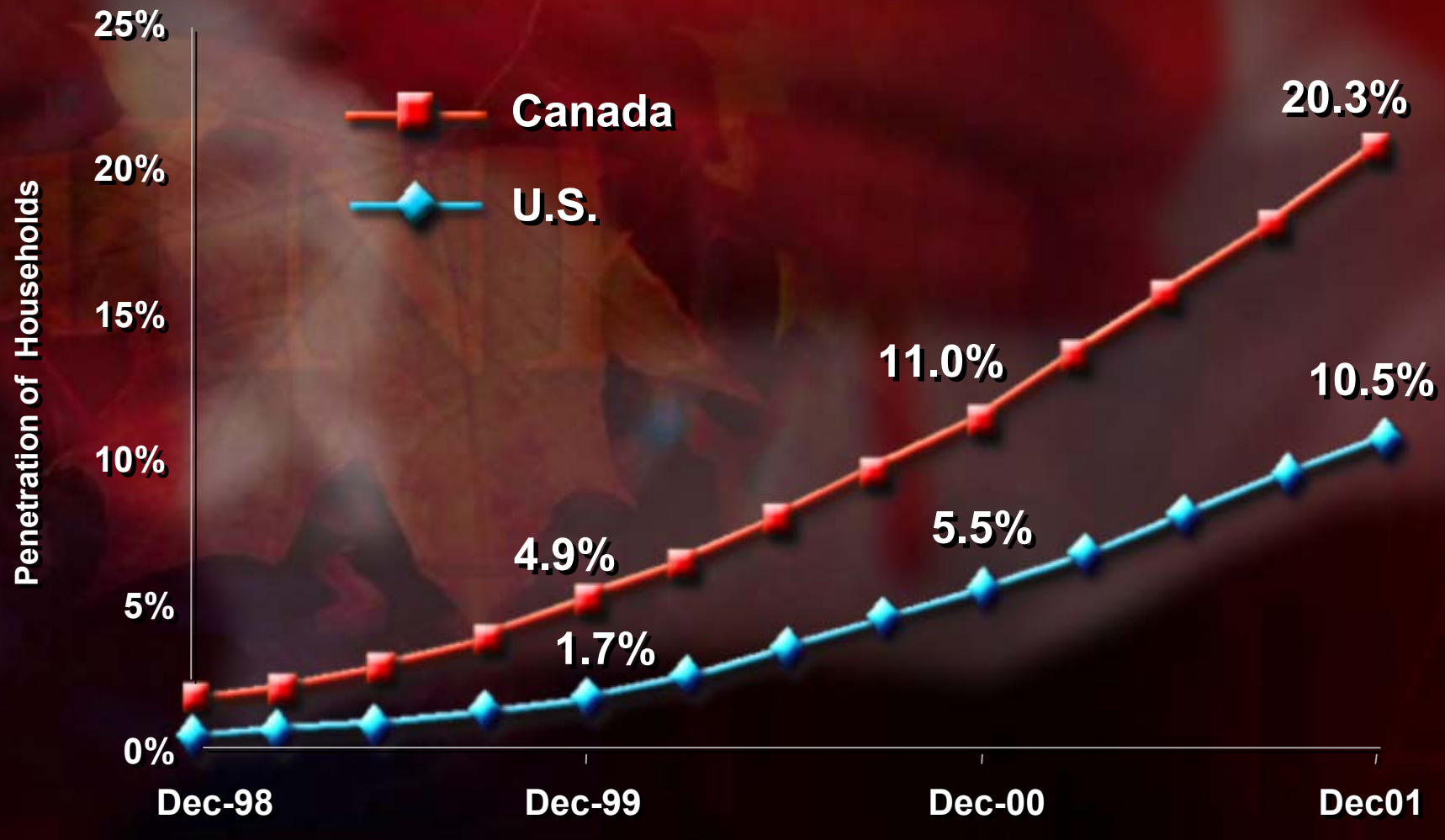
Canada is Well Positioned…



*Data from Sweden and Iceland includes subscribers to high-speed fibre LAN services

Source: "The Development of Broadband Access in OECD Countries", OECD/TISP, October 2001.

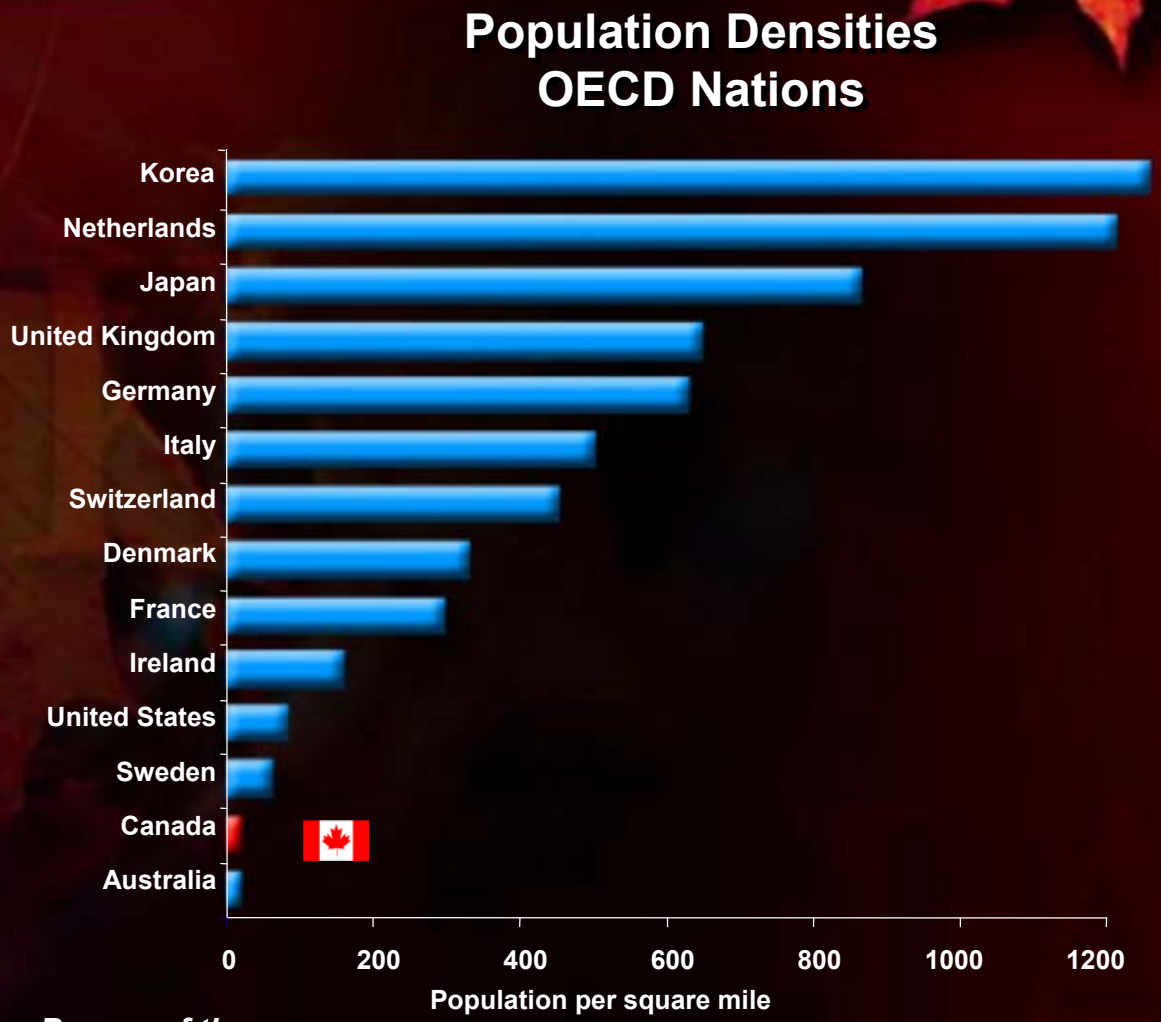
…vis à vis the U.S.



Source: Bell Canada Estimates

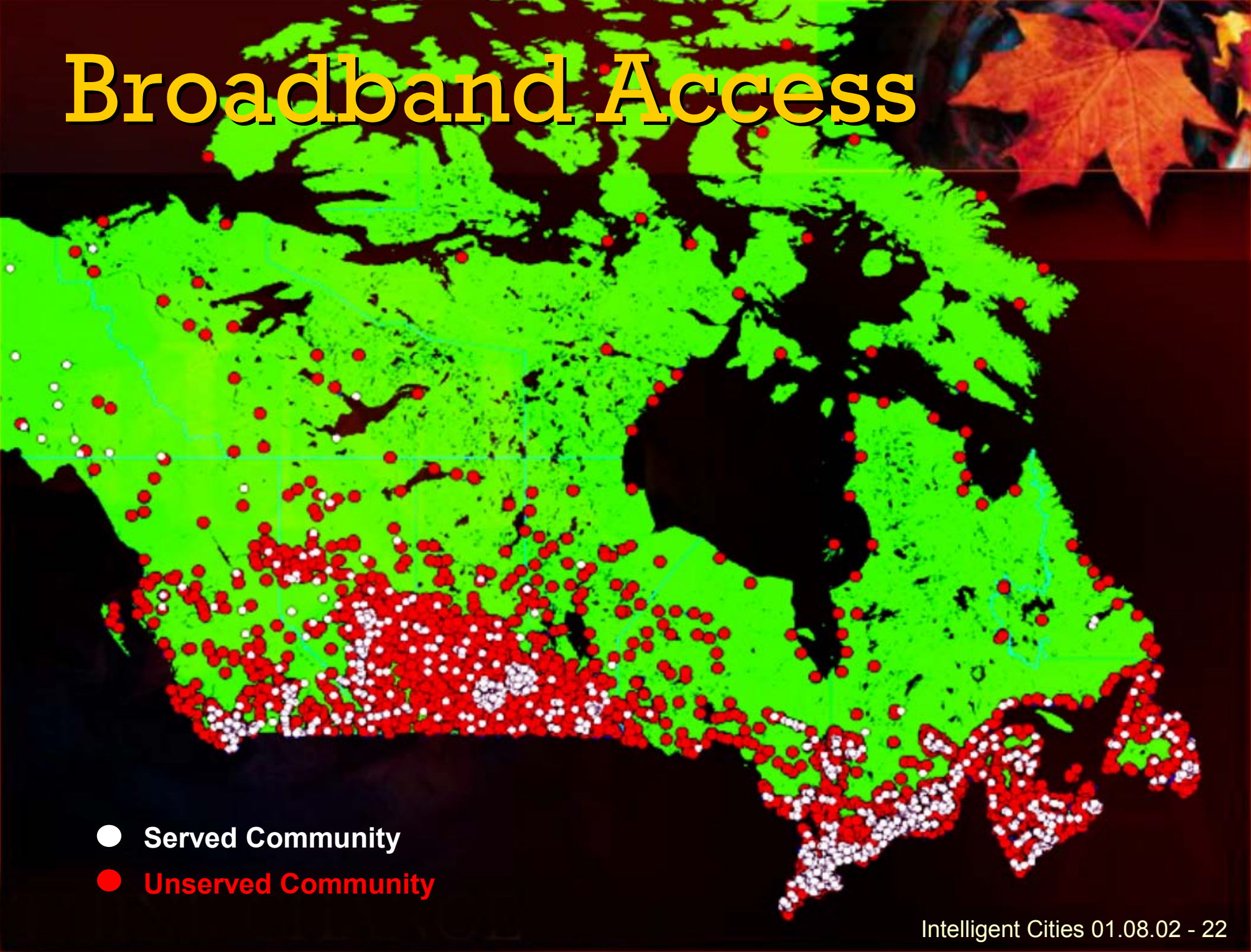
But We Face Unique Geographic Challenges

- Relative to other countries Canada has low population density
- Rural/remote areas unlikely to be served by market forces, as business case non-existent

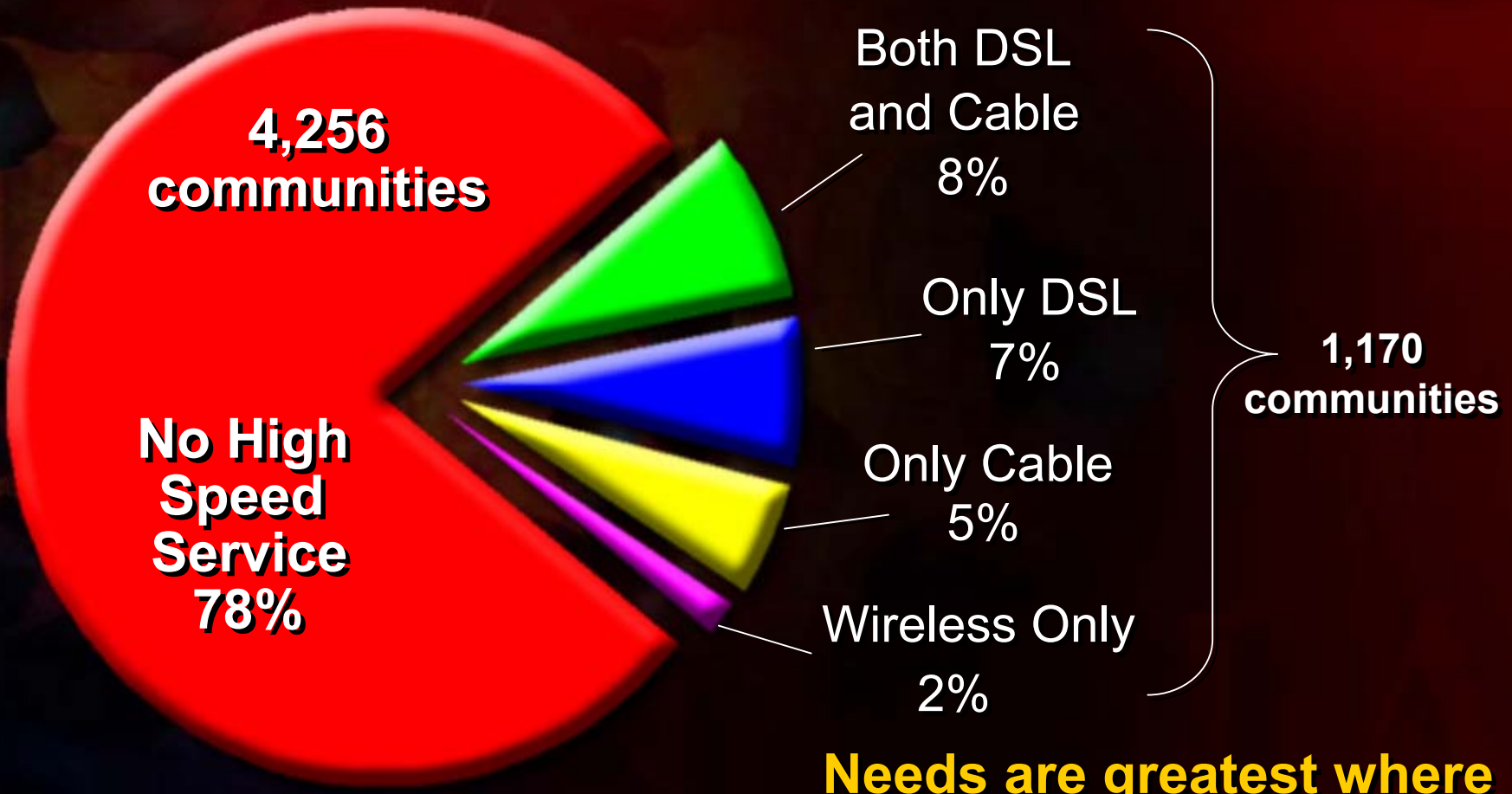


SOURCE: U.S. Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 1992, Tables 25, 340 and 1359

Broadband Access



Rural and Remote Communities Left Behind



Communities refer to Statistics Canada Census Dissemination Areas aggregated under Canada Post naming conventions.
Source: Industry Canada estimates based on 2001 population data from STC and confidential company information.

Needs are greatest where services less available or not available

Government Policy : Equal Access for All Canadians

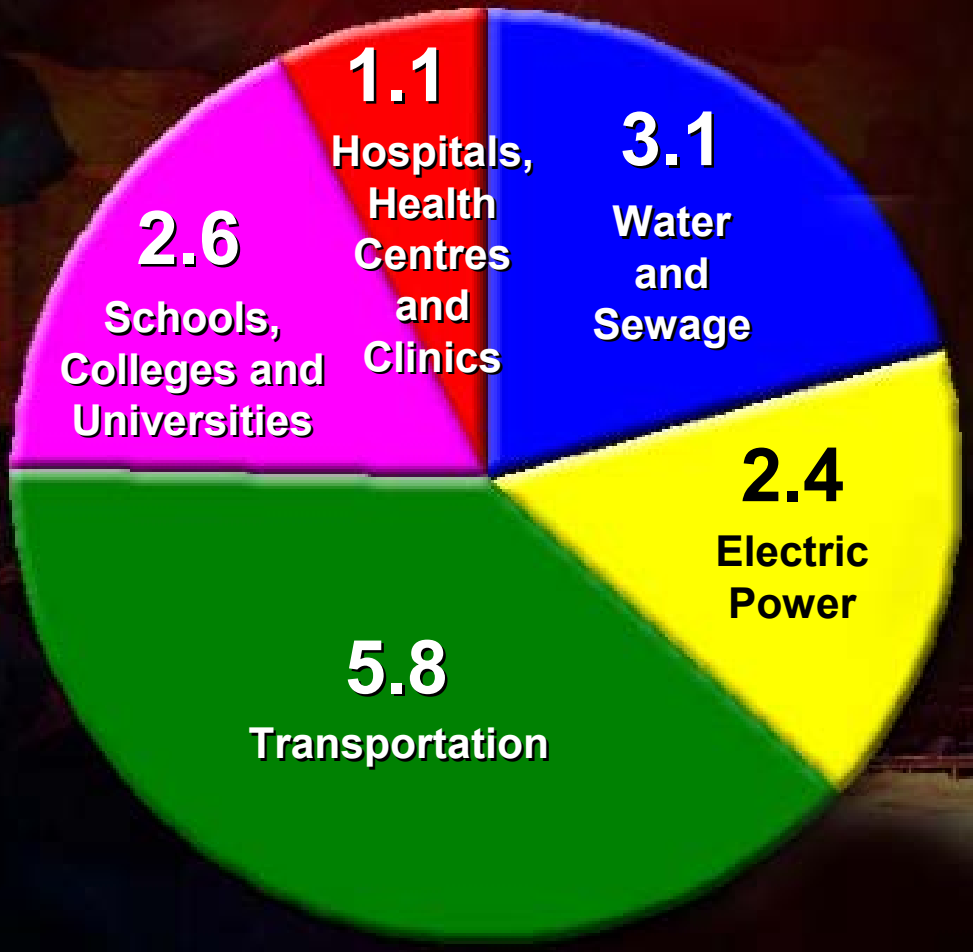
Telecommunications Act policy objectives:

- "Safeguard, enrich and strengthen the social and economic fabric of Canada and its regions"
- "Render reliable and affordable telecommunications services of high quality accessible to Canadians in both urban and rural areas"

"Without innovative public policy, these technologies could become a source of exclusion, not a tool of progress."

United Nations Development Report, July 2001

Broadband Part of Basic Infrastructure



Total Annual Expenditures $15B

Essential Infrastructure Needs Public Investment

Source: Capital Expenditure by Type of Asset, Statistics Canada Publication 61-223, 1997

Pilot Program Launch

http://broadband.gc.ca

Bracebridge (ON), September 5, 2002
Allan Rock, Minister of Industry Canada, and Andy Mitchell, Secretary of State (Rural Development) (FedNor) launched the $105M **Broadband for Rural and Northern Development Pilot Program**

"We are making this investment to improve the quality of life of Canadians, to open doors to new economic opportunities, to solve problems that are faced in rural Canada."

Minister of Industry Allan Rock
Broadband for Rural and Northern Development Pilot Program Launch
September 5, 2002

Criteria for Deployment

- Respond to community needs (demand aggregation)
- Private sector should play an active role
- Governments should foster competition and provide communities with opportunities to play a leadership role
- Provide third-party open access
- Competitive and technologically neutral process
- Sustainable and scaleable
- One-Time Federal Capital Investment

Huge interest: 17,000 downloads of application to date.

Deadline for first round submissions: October 31, 2002.

Broadband Vision

Industry Canada
www.ic.gc.ca

Connecting Canadians
www.connect.gc.ca

Consumer Connection
www.strategis.gc.ca

Strategis
www.strategis.gc.ca

Electronic Commerce
www.e-com.ic.gc.ca

Dot Force
www.dotforce.org

Innovation Strategy
www.innovationstrategy.gc.ca

Broadband
broadband.gc.ca

Smart Communities
www.smartcommunities.ic.gc.ca

THINK INNOVATION

THE BEST WAY TO PREDICT THE FUTURE...
IS TO CREATE IT.

Canada