One of the world’s leading digital experts, Lou Zacharilla, of the prestigious New York based think tank, ICF, has urged Dundee to train more unemployed people in new technology to combat manufacturing job cuts.

“One of the city’s most important challenges is ‘digital inclusion’.”

“Hundreds of posts have been axed in the city in recent years. However, it has seen a rise in knowledge based industries…”

“Dundee is now incubating biotechnology and games industries to create the engine to produce jobs… but leaders urged to beware of ‘leaving people behind’ in Dundee’s digital revolution.”

“It needs to look at the under-served population, in schools and universities”.

“Adaptability, not legacy, is the essential component in intelligent communities.”
Digital Divide, Digital Inclusion and the Culture of Use in the Context of the Intelligent Community

- Intelligent Communities respond to the challenge of local economic development in the broadband economy
- Work to maintain a high quality of life - as places where the next generation can find a good job, make a home and raise their children
- Leverage their unique qualities and traditional strengths in a new economic environment

Digital Divide, Digital Inclusion and the Culture of Use in the Context of the Intelligent Community

- Intelligent Communities –
  - Recognize the impact of broadband and its role as an essential utility for job creation and economic growth
  - Work to create a culture of use among citizens, businesses and government to stimulate economic development and political participation
  - Ensure that low-income and at-risk populations can participate in the broadband economy
Digital Divide, Digital Inclusion and the Culture of Use

Indicators:
- Broadband infrastructure
- Knowledge-based workforce
- Innovation
- Digital Inclusion
- Marketing and Advocacy

Other Considerations:
- Leadership and Public Policy
- Applications / Content Development
- Investment and Risk
- Sustainability
- Collaboration
- Culture of Use

Why is the issue of the Digital Divide important?
- Digital and Broadband Economy is fundamentally transforming societies, their economies and their cultures around the world.
- But populations are becoming increasingly divided.
- Vast crevasses between those with access to these technologies, education and the jobs and lifestyle that they offer and those without.
- More than a geo-political line drawn in the sand.
- Often hidden within the economy and culture of countries and within communities, both urban and rural.
- Reflection of the inequalities apparent in the social structure of each country.
Digital Divide, Digital Inclusion and the Culture of Use

- New technologies and education often play a double-sided role
  - Enhance the gap between those that have the access and those that do not.
  - They often magnify differences in wealth, position and power as well as in the level of education, access to infrastructure and resources and the capacities that they are able to build on.

- Nothing new re. concept of “gap”
  - between people in communities and countries who make effective use of technology and those who can’t.

- Historically, there have been many people and even whole cultures who have been denied access to new technologies or education in the past simply because resources weren’t available or not allocated:
  - transportation,
  - manufacturing devices and
  - even simple tools for education.

- Others have been denied access for other reasons, due to politics, economics or distance (rural, northern, rainforests), etc.

- Whatever the reason, unequal adoption of technology usually has had massive ramifications to the health of the local or regional economy and its related social and cultural advancements.
The importance of the issue of the digital divide today is more than the exclusion of individuals from reaping the fruits of their local economy through access to a computer...

- it's actually about the missing opportunity to revive the local as well as global economy.

Brookings Institute & Gartner Dataquest study:
- “example of impact of ubiquitous broadband at 10 mbps, in the U.S. alone, could total as much as $500 billion worth of goods and services produced over the next decade”.

Ubiquitous broadband suggests universal deployment and use.
- requires a complete overhaul in our collective ability and interest to ensure that everyone in our society can take advantage of broadband applications and services.
- this further requires that we educate and make available to everyone the tools to utilize and ultimately purchase these services to achieve this kind of prosperity.

Building ubiquitous broadband requires building ubiquitous demand.
Digital Divide, Digital Inclusion and the Culture of Use

- The largest single opportunity is to capture demand from those previously denied access.
  - For instance, Brooking’s and Gartner’s figures for North America pale in comparison when compared to the global opportunity to bridge the digital divide: “a 10 Trillion dollar opportunity”!

- Bridging the digital divide is clearly an opportunity to cultivate, harness and benefit from the creativity and talents of all people in a society, including all ages, races, creeds and religions as well as from all social and economic levels.

Innovation occurs when the environment is created for creativity and ideas to flourish and the resources and technologies are accessible (and affordable) to enable them to happen.
Digital Divide, Digital Inclusion and the Culture of Use

- Bridging the gap is only part of a larger equation to becoming a true “intelligent community”.
  - *It becomes the litmus test of the kind of culture that is created to allow innovation and prosperity to thrive.*

- Ultimately the concept of bridging the digital divide
  - should give way to digital inclusion and
  - evolve into the idea of creating a global culture of use of technologies, many based on high speed broadband.
  - This seeks the transformation of attitudes and the establishment of a new “intelligent” environment.
Digital Divide, Digital Inclusion and the Culture of Use

- Noted child psychologist Jean Piaget describes intelligence as “an organism's ability to adapt and prosper in an ever-changing environment”

- Similarly intelligent communities and intelligent nations will be those that foster innovation and thrive in environments that embrace change as a positive cultural force.

- Only then can the digital divide truly be bridged.

Digital Divide, Digital Inclusion and the Culture of Use

- We could argue that our collective ability to deal with the issue of the Digital Divide could become one of the principal measures of success in our communities around the world.

- Many communities with government support seek to bridge the Digital Divide through demonstration projects and help centers.

- e-government services can be seen simply as access to government services, documents and electronic payments….

- but increasingly take the form of access to training, discovery of the potential for a better life through development of new skills, a clean and healthy environment and building confidence in the individual and their place in society.
Examples from around the world

- Sunderland, UK
- Gangnam District, Seoul, Korea
- Taipei, Taiwan
- Waterlo, Ontario
- Tallinn, Estonia
- LaGrange, Georgia
- Top 7 Intelligent Community (2006)

Digital Divide, Digital Inclusion and the Culture of Use: Taipei

In 2006, ICF recognized Taipei for taking its CyberCity program to the next level by making broadband connectivity and its use and application an essential component of life for its citizens and businesses, and using it to transform their economy, culture and social aspects of the city.

Leadership invested in building broadband infrastructure and using the Internet to improve public services, every form of access for its citizens, including transportation, and use of technology to improve their daily quality of life.
Digital Divide, Digital Inclusion and the Culture of Use: Taipei

Integrated broadband and online services became part of citizens' lives

- **e-schools**: PCs with broadband
  - in every classroom & computer labs
- **e-communities**: free PC / Internet training
  - 800 public Internet kiosks
- **digital equality**: IT-based platform for innovation
  - 240,000 trained
- **smart cards**: 5.7 million easy cards issued
  (communications, transportation, security, transactions, etc)
- **branding**: community awareness and pride

Ubiquitous wireless broadband – largest in world to 90% of city
- **Nortel's** Mesh Network - Mobile City Project – Last mile solution
- **Cisco** implemented its Network Academy in Taiwan – **SME incubator**
- **Microsoft** - world's first location for its Future School Program.
- **7-Eleven shops**: trained via highly accessible everyday applications
Digital Divide, Digital Inclusion and the Culture of Use: Gangnam District, Seoul, South Korea

- Leads world in broadband penetration
  - 12 million broadband subscribers (25% of entire population)
  - Speeds of 10 Mbps a standard offering in all urban areas.

- Policy Leads:
  - Secret behind South Korea's explosive growth has been strong government-business cooperation, with government setting objectives, determining policy and directing credit and investment. (Mayor Jung-Ju)

Technology is being used to make government more accessible to the people it serves.

- Government-supported applications serve its citizens from cradle to grave.
  - Computer and IT literacy training for its citizens, etc. Gangnam Portal has trained 350,000.
  - U-SMART initiatives aims to increase demand for "ubiquitous computing" technologies anywhere.
  - TV Government – all services available to every citizen, including all official documents, access to sample school entrance exams and other educational services.
    - Since 1997, 40 internet based home school sites became available to the infirm, disenfranchised, elderly.

- Incentives promote continued education for workers; Assistance for disenfranchised.
Digital Divide, Digital Inclusion and the Culture of Use: Tallinn, Estonia

- Regaining its independence in 1991, Tallinn has emerged as a hotbed of IT culture.
- First PAP (Public Access Point) – National Library
- By 2000 with the Public Information Act, required all Libraries to provide PAPs (730 PAPs emerged but now widespread free WIFI)
- Open Estonia Foundation (Soros) opened access points throughout Estonia with training
- Banks initiated “Tiger Leap” initiatives with 16,000 teachers and 200,000 students
- Significant cultural change with technology and broadband related IT startups at its base: Skype, Hotmail, KaZaa, etc.

By 2001:
- Not an issue of access nor affordability
  - Study undertaken: Lack of motivation
  - New foundation formed by telecoms, banks and computer companies: LOOK@WORLD to train 100,000 (10% of population)

E-Estonia: e-government services over internet and extensive, ubiquitous mobile-based services over sms – nearly every person has access to mobile communications (102% public coverage)
- Most transactions possible over mobile phones: parking, beer, taxis, taxes and bank charges
- Teachers, Students and Parents can collaborate over teaching and examination marks
- E-democracy portal
- 1 million ID cards issued (digital signatures)
Digital Divide, Digital Inclusion and the Culture of Use: Sunderland, UK

- City of 280,000 in the shadow of Newcastle in NE UK
- Former shipbuilding and coal-mining center hard-hit by industrial decline
  - 1980s: unemployment rate exceeds 30%, higher than in the Great Depression
  - In top 10% of UK “distressed districts”
  - Low-skilled workforce, heavy concentration of elderly, disabled workers
- Created and publicized a “Telematics Strategy” to ensure that all citizens benefited from the new economy that had to emerge from its heavy industry past

Digital Divide, Digital Inclusion and the Culture of Use: Sunderland, UK

- E-Government Team implemented “peoplefirst” approach
  - Aim - to adopt technology-based approaches to delivering efficient government services.
  - Equipping front-line staff with wireless PDAs to check records and order services while engaged with citizens
  - Identifying and training “Community e-Champions”
  - In forefront to attract citizens to new technology-based activities and economy, such as social media: blogging, podcasting, webinars, etc.
Digital Divide, Digital Inclusion and the Culture of Use: Sunderland, UK

- By 2003, unrelenting commitment to control over Sunderland’s economic and social destiny led to –
  - Over 12,000 new jobs in technology-driven businesses
  - Reduction of unemployment rate from 30% to 4%
  - 50% reduction of long-term unemployed since 2000
  - “Beacon Status for Social Inclusion” award from UK’s Local Government Association
  - Ranked one of top five most competitive business locations in UK by KPMG

- Sunderland wins Digital Challenge to Bridge Social and Digital Divide
- Technology industry contributes over £11m to help enable social inclusion
- Sunderland wins the Communities and Local Government’s Digital Challenge competition for its plans to deliver a digitally enabled community that will benefit some of the most vulnerable and socially excluded people in the area.
Digital Divide, Digital Inclusion and the Culture of Use: Sunderland, UK

As the winner, Sunderland is recognized as an example of best practice in the use of ICT technologies to tackle social exclusion.

Sunderland’s proposals will see its community benefiting from a number of initiatives including:

- community e-champions working in their local area to help vulnerable people access computer and internet services,
- helping children at risk of underachieving and
- an e-mentoring scheme working for children and young people.

Minister for Local e-Government, Angela Smith, said:

"Digital Inclusion is about more than new technologies. It is an opportunity to solve problems and improve the lives of people in our communities. As the winner of the Digital Challenge, Sunderland should be seen as an example of how the social and digital divide can be bridged and serve as a blueprint for local partnerships for the future."

"All the finalists have led the way in the UK and should be seen as true regional digital inclusion champions. Together as the new DC10 they will continue to galvanise thinking, unleash creativity and raise the agenda, both locally and nationally."
Digital Divide, Digital Inclusion and the Culture of Use: LaGrange, Georgia

- Rural city of 26,000 - 60 miles southwest of Atlanta
- Lost much of its industrial base in late 1980s as Raytheon and other manufacturers closed plants
- Bypassed by carriers for deployment of advanced telecom services. A city in crisis that bootstrapped itself for success.
- By 1998, through leadership and innovation, the city operated +200-mile fiber in alliance with cable TV provider; by 2000, launched first free Internet & email service on TV, VOIP for voice service
- Generating +$1m annually from service delivery
- Gained 5,000 new jobs due to telecom infrastructure

Digital Divide, Digital Inclusion and the Culture of Use: Waterloo, Ontario

- ICF recognized Waterloo, not for efforts to transform a failing economy, but for its commitment to fostering institutions that drive technology innovation and share its benefits with the community at large.

- Waterloo is a Broadband Economy success story
- Waterloo Region Education and Public Network
- High-speed connections to 247 schools
- Waterloo’s 3 post-secondary institutions participate in ORION (Ontario Research and Innovation Optical Network), high-speed fiber network connecting 100 educational & research institutions
- Government and business have created more than 150 research institutes in the region:
  - Perimeter Institute for Theoretical Physics
  - Center for Wireless Communications
  - Leitch-UW Multimedia Laboratory
  - Nortel Networks Institute for Advanced Information Technology
  - 120-acre Research and Technology Park
In Waterloo, use of broadband is an inherent part of their culture:

- Education through the application of technology and broadband initiatives.

**WREPNET (Waterloo Regional Education and Public Network)**

- high speed data network connecting 247 sites in the region
- connecting every elementary and secondary school, libraries, municipalities, the local community college, Grand River Hospital and Family and Children’s Services.

**Teaching and Learning through Technology Partnership**

- pilot technology-enhanced knowledge mobilization project, delivering leading-edge development activities and communication to communities of learners.

**Centre for Community Service-Learning**

- 1,000 students a year engage in community service-learning - a form of experiential learning where, through community service, students are able to connect classroom learning to real life experience. (200 community partner organizations)
- Centre increases capacity and fosters culture of social responsibility

**Computers in Schools program**

- donated surplus computers repaired, refurbished and distributed free to schools in need
Digital Divide, Digital Inclusion and the Culture of Use: Waterloo, Ontario

Prevalent culture of use of broadband
Commitment to ensure that use and access are both widespread.

• Community Access Program (CAP)
• Community Learning Spaces
• Social Planning Council of Kitchener
• Waterloo Public Library e-Library Strategy
• Municipal initiatives

2005-2008 Strategic Plan provides a focus for the evolution and sustainability of the intelligent community concept through the expansion of both infrastructure and local service delivery initiatives.

Five key strategies:
1. Planning for Growth and Change
2. Addressing Service Needs
3. Safe and Caring Community
4. Building Partnerships
5. Pursuing Operational Excellence

Intelligent Community
North American Tour:
Immersion Lab

New York City, Philadelphia, Cleveland, Waterloo and Toronto
May 11-22, 2008

ICF’s Annual Conference
NYC
May 17-18, 2008
Digital Divide, Digital Inclusion and the Culture of Use

Thank you!

John G. Jung
Chairman
Intelligent Community Forum
NY Information Technology Center @ 55
Broad Street
14th Floor
New York, NY 10004 - United States
Phone: +1 212-249-0624

www.intelligentcommunity.org