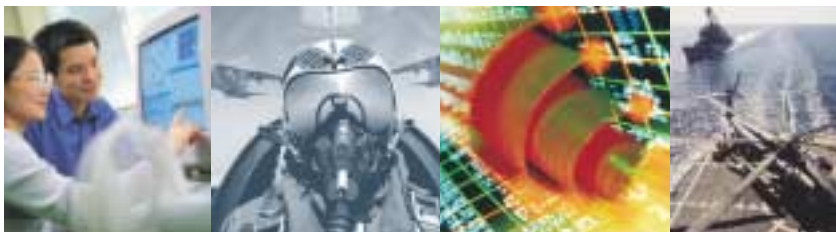


Northern Ireland Defense Resource

►PROPOSITION



Invest Northern Ireland has a long history of investing in and facilitating North American and allied aerospace, defense and communication companies.



Together with world-renowned communication companies such as:

Openwave, AePona, BT, Nortel, Amphion, Celeritek, ezDSP, Parthus, Xilinx

and aerospace companies including:

Raytheon, Bombardier, Goodrich and Thales Defense Systems

Northern Ireland has built a dynamic and exciting defense communications cluster driven by the region's superior talent, low cost of operations and attractive packages of financial incentives offered by Invest Northern Ireland.

In addition, our outstanding University of Ulster, Queen's University Belfast and co-located Science Parks have been engaged in leading edge communications research.

For example:

- Intelligent agents for adaptable wireless networks in the digital battlefield

- SoC design and partitioning and synthesis of FPGA functions
- Low power algorithmic and architectural techniques
- Video compression and real time data encryption

Both Universities benefit from the patronage of world leading academics: Professor John McCanny (Queen's University, Belfast), Fellow of the Royal Society and Professor Gerard Parr (University of Ulster), MILCOM 2002 Technical Track Chair of Architectures and Protocols and previously at DARPA-funded USC-ISI.

Why Northern Ireland?

Quality

- World leader in education and research
- Project deadline focused
- US/UK Coalition Partner

Cost

- 50% of US costs

- Fully burdened annual engineers cost = \$70K
- UK direct and indirect offset mitigation

Government

- Strong linkages with UK DESO/DDA
- \$20K per job created in high tech sector
- \$1.2M for near market research - like for like basis
- \$3m for each Pre Competitive research program

Defense Research

Advanced Network Management for the Digital Battlefield

A joint project between University of Ulster and Georgia Tech with input from DARPA and QinetiQ. This will research highly mobile wireless multimedia architectures, with capability for intelligent survivability and adaptive connectivity in a hostile environment.

Advanced Communication Systems

Hardware architectures for novel non-linear digital equalization algorithms for LMDS, SDH-Radio and DWDM.

GRID Computing for Defense Networks

A joint project between Queen's University Belfast's Science Grid and QinetiQ.

GRID Computing for highly scalable, parallelisable, fuzzy logic data matching engines

Access switching, transmission and network management.

Institute for Electronics Communications and Information Technology - ECIT

This strategic \$65m investment will relocate to new dedicated premises at Belfast's Science Research Park in July 2004. Research areas include:

- High Frequency Electronic Circuits/Antennas
- Adaptive multi-functional front-ends for Mobile Communications using low cost Phased Arrays
- Reconfigurable Radio Systems and Networks
- System-on-Chip
- DSP for Communications
- Image and Video Systems
- Speech and Language Processing
- Telecommunications Software
- Advanced Networks Laboratory
- New Multimedia Delivery Systems

Company Profiles

Thales Air Defense

- Circa 600 highly skilled aeronautical, electronic, r.f. and laser guidance engineers
- Seacat, Blowpipe, Javelin, and Starstreak programs
- Weapon Systems, Test Equipment, Trainer Systems, LML, Hummer and Apache Platforms
- Offset Programs include:
 - ATASK
 - Hellfire Missile
 - Hellfire Launcher

Raytheon

- New facility with c100 engineers - primary focus is ATC (Air Traffic Control) systems
- Engineering applications C, C++, Java, EJB, OOD
- Web & PC applications
 - Oracle, ColdFusion, ASP, Java
 - Quality - CMM level 3 accreditation - tools used include: Rational ClearQuest, ClearCase, RequisitePro, TestManager, Robot, Rose, Purify & Rational SiteLoad and Microsoft IDE

Tibus, Secur-Guard™

Solution Description

The Secur-Guard bio-location solution bio-authenticates a person, captures their vital signs including cardio trace, skin temperature and impedance. It then GPS locates the person to a browser based map or aerial photo.

Secur-Guard ensures that a person is in an appropriate location and that their vital signs are within thresholds. GIS boundary conditions and bio-calibration enable alert management.

The system is a unique bio sensor / GPS chip together with secure satellite data link to an authorised browser.

Applications

Army, Navy, Airforce, Marine Corp, Police, Security Services, Homeland Defence, Fire and Rescue, Port and Airport, Immigration and Naturalisation - anyone that requires simultaneous proof of location and health condition...

Asidua ...securing your network...

- Enabling secure configuration of large scale networks, including network node software upgrades
- Scalable network management systems, based on Web Services, CORBA, Java/J2EE, XML
- Embedded systems development for SONET, SDH and DSL networks

Goodrich - Northern Ireland

In Northern Ireland Goodrich designs, develops, tests and verifies real-time embedded safety critical software for Full Authority Digital Engine Controls.

Engine

CSAC/JSF
RTM
Allison 2100
Allison T406

Aircraft

Joint Strike Fighter
Apache Helicopter
Lockheed Martin C130-J
Boeing Tiltrotor (V22 Osprey)

Openwave

Openwave Systems, formed from the merger of Phone.com and Software.com was one of the first companies to invest in the wireless internet market. It is now regarded as the market leader in wireless middleware. Paul Moorehead, VP Engineering, Product Development, Openwave Systems (N.I.) Ltd. commented: "Our Belfast operations represent Openwave's largest R&D center outside of the United States. This means that Belfast is essential to the development

of Openwave's products - including a whole range of new mobile internet technologies."

AePONA

AePONA is a market leader in the delivery of products and services to the telecommunications vendors and Service Providers. Their Causeway product enables wireless carriers to trial and deploy new applications on current wireless networks in advance of the 3G-technology rollout.

Amphion

Amphion is a leading supplier for application-specific intellectual property cores for multimedia, wireless and broadband communications integrated circuit design. Their range of designs include System-on-chip (SoC), Application Specific Integrated Circuits (ASIC) and Programmable Logic (FPGA).

[To find out why these leading edge aerospace, defense and communication companies have located in Northern Ireland...](#)

[To explore win/win agendas under the heading of US/UK Coalition Partner research...](#)

[And to learn how you can engage in Northern Ireland's cutting edge University research...](#)

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