

# UBC IMPACT TECHNOLOGIES

Licensed UBC discoveries have led to products, services and treatments that have generated \$11.5 billion in sales.

## QLT Inc.

Dr. Julia Levy and Dr. David Dolphin  
Photoactive Compounds (1981)

### \$4.1 billion

#### Global Sales of Invention

QLT was founded by UBC faculty Dr. Levy and Dr. Dolphin in 1981 to further their discovery of a drug capable of killing cells when exposed to light (Visudyne: photodynamic therapy). QLT developed Visudyne as the first effective treatment for macular degeneration, the leading cause of blindness in the elderly.

## WebCT

Dr. Murray Goldberg  
WebCT - An Environment for Authoring  
www-based Courses (1995)

### \$700 million

#### Global Sales of Invention

WebCT is an online learning environment system used by over 2,500 colleges and universities in over 80 countries. Instructors were able to add educational content and tools such as discussion boards, mail systems, and live chat to their courses. At its peak, WebCT was in use by over 10 million students annually

## OSIWare Inc.

Dr. Gerald Neufeld  
X-400 Electronic Messaging Software (1984)

### \$300 million

#### Global Sales of Invention

OSIWare Inc. was a Vancouver start-up that developed and sold software invented by Dr. Neufeld at UBC for routing and processing email. The software was instrumental in tying together diverse email nets beginning in the late 1980s, by converting email addresses from more than a dozen proprietary system into a universal format.

## Enwave Corporation

Dr. Tim Durance  
Vacuum Microwave Dehydration Technology (1996)

### \$160 million

#### Global Sales of Invention

EnWave Corporation offers industrial-scale dehydration technology for food and pharmaceutical industries. EnWave's platform delivers efficient, low-temperature processing and is the new global dehydration standard: faster and cheaper than freeze drying, with better quality end products than air drying or spray drying.

## .CA Domain

John Demco  
.CA Domain (1988)

### \$60 million

#### Global Sales of Invention

John Demco established the .CA domain name two years before the world wide web even emerged. In 2000, after registering more than 100,000 domain names, Demco and his team of volunteers handed over responsibility to the Canadian Internet Registration Authority (CIRA), a not-for-profit corporation he helped establish with UBC and the Government of Canada.

## Westport Innovations

Dr. Philip Hill  
Injector for Natural Gas in Diesel Engines (1988)

### \$2.2 billion

#### Global Sales of Invention

Westport Innovations is a company that develops low-emissions technologies to allow engines to operate on cleaner fuels such as natural gas. Westport is best known for its technology that allows the diesel engine to operate on natural gas without modifications to the engine's combustion chamber.

## The Liposome Company

Dr. Pieter Cullis  
Method for Packaging Drugs within Liposomes (1984)

### \$500 million

#### Global Sales of Invention

Acquired by Elan in 2000 for \$575 million, The Liposome Company was engaged in the discovery and development of encapsulated drugs, such as Abelcet, for the treatment of fungal infections.

## Cardiome

Dr. Michael Walker  
Treatments for Anti-Arrhythmic and Anaesthetic Uses (1991)

### \$220 million

#### Global Sales of Invention

Cardiome developed the drug vernakalant based on a discovery at UBC to treat abnormal heart rhythms associated with heart disease and high blood pressure.

## Abgenix Biopharma

Dr. John Schrader  
Methods for the Production of Antibodies (1991)

### \$125 million

#### Global Sales of Invention

Abgenix formed around a platform developed at UBC capable of producing human antibodies for the treatment of disease. Amgen acquired Abgenix in 2005 for \$2.2 billion, securing rights to the antibody platform and two therapeutic antibodies for the treatment of cancer and osteoporosis.

## Klearway

Dr. Alan Lowe  
Mouthpiece to Prevent Snoring (1993)

### \$35 million

#### Global Sales of Invention

Developed at UBC and licensed to Great Lakes Orthodontic, Klearway is a mouthpiece with an adjustable mechanism to open the jaw for the prevention of obstructive sleep apnea and snoring.



## Scale-Invariant Feature Transform

Dr. David Lowe  
SIFT: Scale-Invariant Feature Transform (1998)

### \$1.2 billion

#### Global Sales of Invention

SIFT is a feature recognition algorithm used in computer vision to detect and describe local features in images. The algorithm has been licensed to many companies, and is most notable in its use to create panoramic pictures, detect theft, and in visual search engines.

## Angiotech Inc.

Dr. Helen Burt  
Drug-Loaded Surgical Implants (1994)

### \$480 million

#### Global Sales of Invention

Angiotech was a pharmaceutical company in Vancouver, whose products enhanced the performance of medical devices by coating them with specific drugs to minimize complications.

## TIR Systems

Dr. Lorne Whitehead  
Prism Light Guide (1978)

### \$200 million

#### Global Sales of Invention

TIR Systems was the first company to commercialize solid state lighting technology, such as LEDs, with the goal of replacing conventional lighting, resulting in positive environmental and business impacts through energy conservation. The company was purchased in 2007 by Phillips.

## Paragon Testing Enterprises

Dr. Don Wehrung  
Canadian English Language Proficiency Index Program: CELPIP (1999)

### \$120 million

#### Global Sales of Invention

Paragon was founded to deliver English language proficiency tests developed at UBC. Tens of thousands of their computerized tests are now delivered annually in more than 70 test centres worldwide.

## Mira Geosciences

Dr. Doug Oldenburg  
Geophysical Modelling Software for the Mining Sector (1992)

### \$30 million

#### Global Sales of Invention

The software developed at UBC integrates many different forms of geological data in order to provide 3D models of ore bodies.