

ACAMP **– Inertial Workshop**

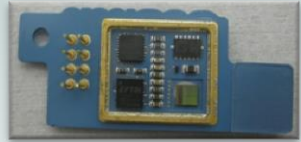
Welcome



- ❖ ACAMP makes it easier for companies engaged in product development to access the expertise and equipment they need to develop new products
 - ❖ Assembly and packaging
 - ❖ Supply chain links
 - ❖ Help with business and market development
 - ❖ Easy, cost effective access to all technologies and services for regional companies
 - ❖ Dissemination of knowledge

- ❖ ACAMP established as a not for profit corporation, June 2008
- ❖ Total \$17M for 5 years (2008-2011)
- ❖ Operational funding from the Alberta Advanced Education & Technology Provincial Government (\$8.0M)
- ❖ Capital funding from Western Economic Diversification (Federal Government) (\$9.0M)
- ❖ Independent from Academia and Government, led by industry.
 - ❖ Senior Management team all have 20 years+ relevant industrial experience
 - ❖ Managing board from local industrial and finance communities

- ❖ Simple fee for service model
 - ❖ Depreciate equipment over 5 years
 - ❖ Manpower charged out at cost
 - ❖ Client pays for all materials/consumables at cost
 - ❖ Qualifying clients based in 'Western Canada' can receive funding from ACAMP
- ❖ ACAMP is a recognised service provider for programs such as the Alberta Voucher program and Nanoworks
- ❖ Client can rent equipment, use our engineering expertise or ask us to manufacture for them
- ❖ Client owns and keeps their product IP, we don't want it
- ❖ New process know how developed either by ACAMP or collaboratively is jointly owned



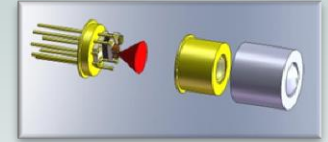
**LTCC/Sensor
Module
PROJECT**



**Microfluidics/Lab-
on-a-Chip
PROJECT**



**MEMS
Assembly/Packaging
PROJECT**



**Opto-
Electronics
PROJECT**

ACAMP FACILITIES

- Simulation
- Optical design
- Ceramic
- MEMS assembly & packaging
- Optical assembly & packaging
- High reliability modules
- Lab-on-a-chip
- Micromachining
- Tooling and fixturing
- Product characterisation
- Reliability testing

ACAMP ENGINEERING TEAM

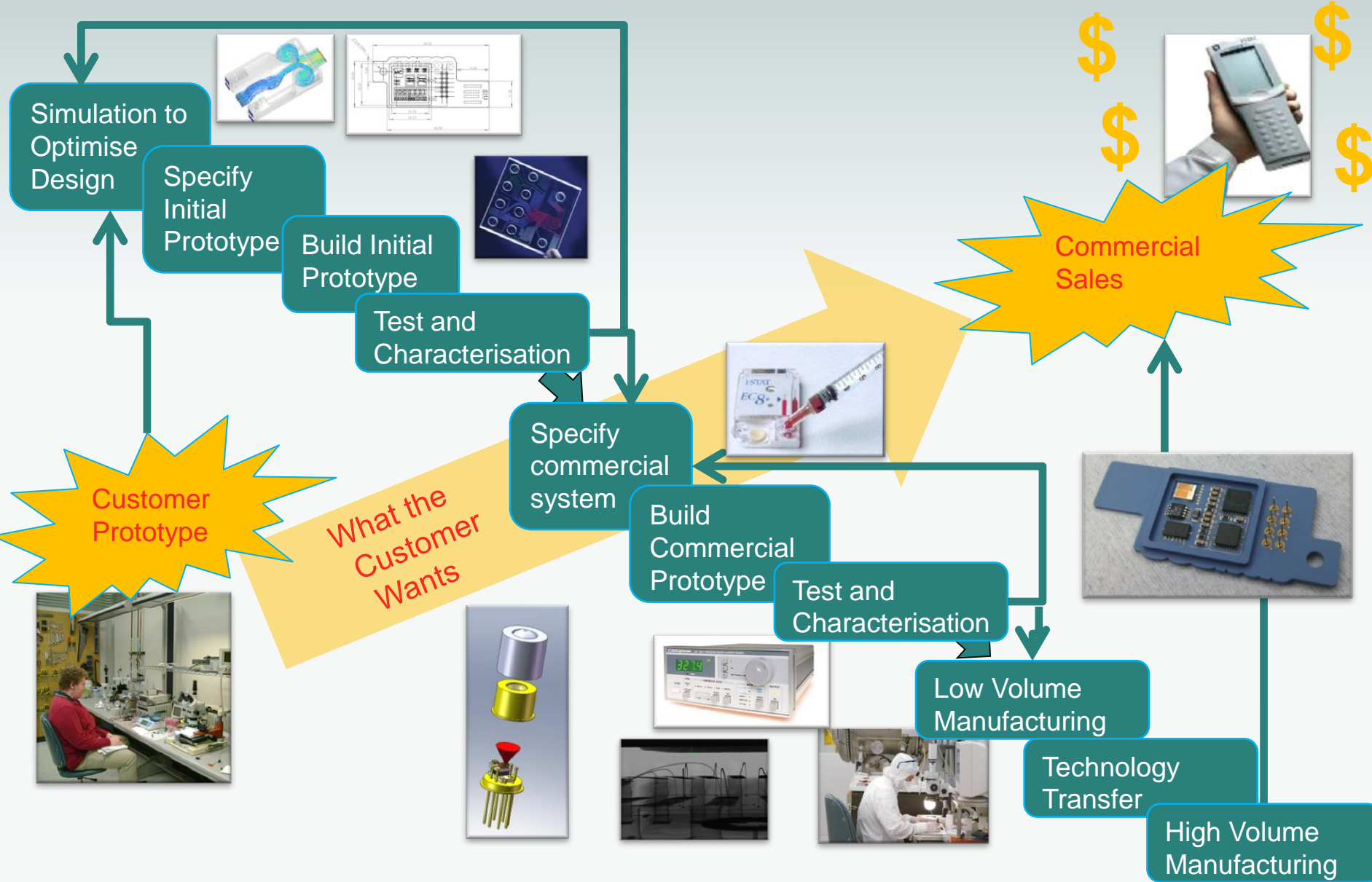
Wafer Processors
nanofab
NINT
AMIF

Precision Machining
Stamco
Etc.

Materials
Dupont
Etc. Etc.

CEM
DSM
Logican
Puracom





Edmonton

- Prototyping – low vol manufacturing (<10,000 units/yr)
 - Hybrid module
 - MEMS component packing
 - Laser assembly and packaging
 - Microfluidics
- Low speed (<1 Ghz) test and design, MEMS componer
- Reliability Characterisation/FA



Calgary

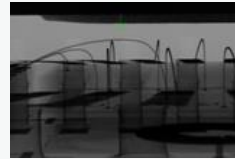
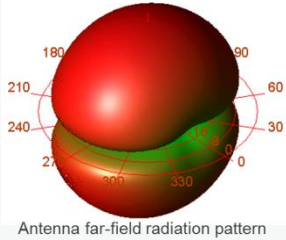
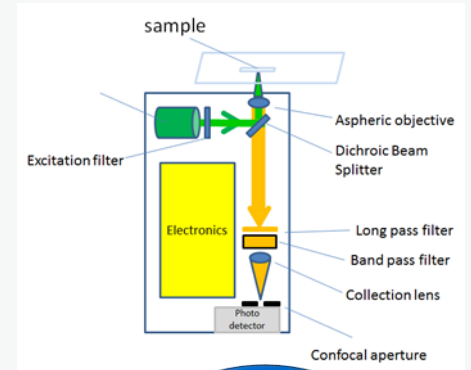
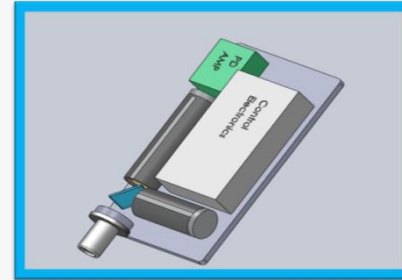
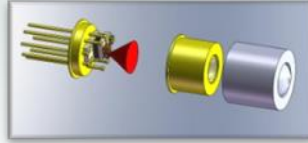
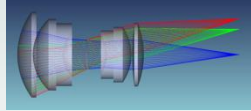
- Prototyping – low volume manufacturing (100's units/yr)
 - Modules
 - Ebeam Welding
 - Inertial Measurement Units
 - High Performance modules
 - RF to 10Ghz +
- FA, Reliability Characterisation



Simulation

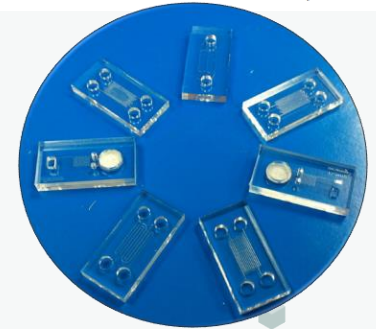
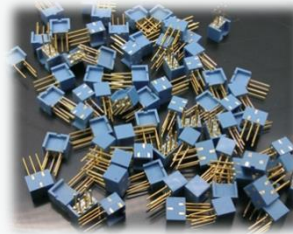
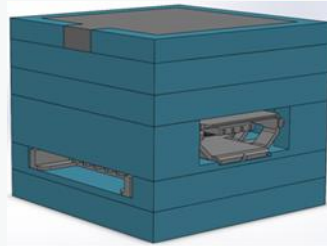
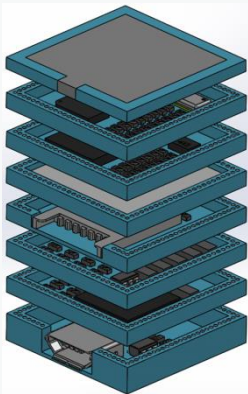
Laser & Micro-Optic & Ceramic Assembly

MicroFluidic Products



Inertial Products

IMU's



- ❖ In-line testing
- ❖ Product validation
 - ❖ **Inertial** 3 Axis Rate Table
 - ❖ **Physical/FA** – optical microscopes, laser confocal microscope, SEM/EDS, microscopes, profilometer, cross sectioning, real time x-ray, Laser doppler vibrometer, die/wire shear/pull, pressure testing
 - ❖ **Reliability** comprehensive suite of test tools – HTS, Thermal cycle, Temp/humidity, Vibration, Drop shock, compressive/tensile, fine and gross leak...
 - ❖ **Electrical** probe capabilities – EG20xx semi-auto probers, manual probers + suite of electrical test tools
 - ❖ **MEMS** die probe capability – Solidus test system + EG4090 prober
 - ❖ **Optical** – dark room, optical table, range of devices for optical measurements

