Canada-Taiwan HFC Forum

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Power to change the World®

- Committed to sustainable mobility and clean air for everyone
- Relentlessly developed technology 38 years
- We have leading talent, with >500 people passionate about our mission
- $85m in revenue in 2016, up 51%
We are strategically positioned.

- Customer-centric, diversified & synergistic business model
- Leader in core markets
- Strong balance sheet
- Listed for >20 years on NASDAQ and TSX
- Strategic shareholders:
We have leading technology.

- World leader in PEM fuel cells
- 2,000 patents & applications
- 3 million MEAs manufactured
- 320 MW of fuel cell products shipped
Ballard Technology Solutions.

**Mission:** help our customers solve difficult technical and business challenges in their fuel cell programs through delivery of customized, bundled technology solutions.

**Solutions:** technical expertise, deep IP portfolio, and supply of technology to drive future opportunities
We deliver innovative technology solutions:

- System Interfaces
- Testing Services
- Test Stations
- Product Development
- Component Manufacturing
- Licensing and Technology Transfer
We produce performance power products.

- Fuel cell stacks
  - Air cooled stack: FCgen®-1020ACS
  - Liquid cooled stack FCvelocity®-9SSL
- Fuel cell modules
  - FCveloCity®-MD/HD/XD
- Fuel cell systems
  - FCgen®-H2PM
Our Manufacturing
We have the experience.

- 30+ years experience in manufacturing fuel cells products
- Continuous evolution – from discrete MEA assembly to continuous rolled-good handling
- 24/7 operation, 400,000+ hours of data collected annually
We have the capacity.

- Current capacity of 1.5 million MEAs, 10,000 stacks and 200 modules annually
- Plans underway for a 10-fold increase in capacity to meet commercial demand
- 5 facilities in our current campus – will be consolidating to two, a world class lab and a world class manufacturing facility
- Technology transfers complete for in-country stack and module assembly facilities
We have the capability.

- 50+ test stations, 10 environmental chambers
- Testing capabilities <100W to 333kW
- Full capabilities and understanding from catalyst ink mixing – CCM/MEA production – stack and module assembly
Fuel cells enhance the performance of electric buses.

- Longer autonomy (up to 450km/300 miles)
- Faster refueling time (<10 min)
- Improves vehicle efficiency and battery lifetime
- 73 Ballard-powered buses in service
- Over 11M km on the road
Fuel cells improve productivity of forklifts.

- 3x longer run time than battery-powered forklifts
- 3 minute refueling for fuel cell lift truck vs. 15 -30 minutes
- Optimized warehouse floor space
- Over 10,000 forklifts deployed in warehouses
Fuel cells guarantee critical infrastructure site availability.

- Scalable power & flexible run time from a few seconds to several months
- Reliable operation (no moving parts)
- Low operating cost
- Small footprint, low weight and quiet operation
Fuel cells extend the range of UAV’s

- Developing fuel cells for UAV propulsion since 2005 (up to 100kg)
- Demonstrated on multiple platforms (6 different UAV systems)
- More fuel cell flight hours than any other company (~350 hrs)
- Partner with Boeing Insitu – Scan Eagle and Lockheed Martin – Desert Hawk
Ballard is your partner of choice.

- We listen and deliver.
- We deliver quality. Always.
- We row together.
- We own our commitments.
- We inspire excellence.
Ballard in the US.

- Protonex - Massachusetts
  - Military market
  - UAV and remote power markets
- Ballard Fuel Cell Systems - Oregon
  - Motive product development
- More than 60 people employed in the US
- Engineering and product development
- Service technicians on the east and west coasts.
Protonex

- 100% Ballard subsidiary based in Massachusetts
- Military and UAV markets
- Specialized in power management systems for military applications
- 4,500 squad power managers in the field with U.S. military
- Currently in ‘Program of Record’ process with U.S. Military for vest and squad power manager products
Ballard Power Systems Europe.

- Headquartered in Hobro, Denmark
- More than 50 people
- European service and repair center
- Applications engineering support
- Product development & manufacturing
- Competence center for stationary systems
Ballard in China.

- Ballard China headquarters (WFOE) located in Guangzhou
- More than 20 people in China
- Product licensing agreement in several regions
- Joint venture to produce fuel cell stacks in Yunfu
- Partnerships with multiple OEM’s and system integrators for commercial vehicles
We are positioned to be a strong long-term partner

- Technology Leadership
- Field Experience
- Manufacturing Capability
- Product Performance
- Global Service Support
- Tier 1 Customer Base