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Ontario Tech named lead academic institution for Phase 2 of Project Arrow all-Canadian concept vehicle

University's ACE supporting Canada's call for a zero-emissions future

OSHAWA, ONTARIO – As Canadians look down the road to the mid-21st century, the country finds itself at a crossroads in trying to balance climate change realities against future energy choices and challenges related to advanced mobility.

In January 2020, Canada's <u>Automotive Parts Manufacturers' Association</u> (APMA) unveiled plans for **Project Arrow**, a visionary and ambitious plan for an all-Canadian zero-emission concept vehicle to be designed, engineered and built by the country's world-class automotive supply sector and post-secondary institutions.

Ontario Tech University will be a driving force behind the next phase of the country's vision to produce a domestic zero-emissions alternative-fuel vehicle by 2022: a car featuring connected and autonomous tech, and the latest in propulsion technology.

Project Arrow's name draws inspiration from the pride and buzz generated during the creation of the fabled Avro Arrow interceptor aircraft in the 1950s. Widely considered one of Canada's greatest engineering achievements, the Arrow program ended with an abrupt cancellation, spawning years of controversy and speculation.

However, the learnings of Canadian engineers through the original Arrow program later proved critical to the success of the U.S. space program, in particular the lunar module used during NASA's Apollo program from 1963 to 1972). The APMA hopes to apply that same level of engineering excitement to creation of a Canadian zero-emissions vehicle.

On October 13, the Province of Ontario announced completion of Project Arrow's Phase 1, with finalist vehicle design submissions selected from Humber College in

Toronto, Kwantlen Polytechnic University in British Columbia and the winning design from Carleton University in Ottawa.

ACE and Ontario Tech poised to play leading role in Project Arrow's second phase

Engineering specifications and aerodynamic testing to convert Project Arrow designs into real products will be headquartered at Ontario Tech University in Oshawa.

Ontario Tech's ACE research and development centre has established a global reputation for excellence in engineering expertise, and deep capacity for aerodynamic testing and thermal management of new products in the automotive realm and beyond.

Automakers and parts suppliers from around the world are familiar with ACE's facilities. The technology at ACE includes a climatic wind tunnel unlike any in the world, a single-belt moving ground plane for aerodynamic development, and thermal testing capability that is unparalleled.

Project Arrow's Engineering Team headquarters will be at the ACE Innovation Garage: a collaborative laboratory and office space bringing together industry, academics and students. The automotive industry typically moves quickly from concept to production, and ACE can accommodate that fast pace by providing rapid access to proof-of-concept testing. ACE is engaged in product development partnerships with many Canadian automotive suppliers and industry leaders like Multimatic Inc., which is supporting Ontario Tech's leading role in Project Arrow.

Quick facts about ACE at Ontario Tech: A gem of automotive development

- A leader in Canadian-based research and development (R&D), equal to any in the world. Investment in ACE keeps Canada at the forefront of automotive R&D.
- Recognized internationally by automotive industry leaders in Detroit,
 Silicon Valley, Germany, the United Kingdom, Japan and Korea.
- Focused on the future of mobility: not just cars, but also trucks, buses, autonomous 'last-mile' delivery vehicles, vulnerable (non-motorized) road users, and more.

- Committed to demonstrating technology with a conscience. ACE applies scientific discovery to real-world products to address issues surrounding climate change and clean energy development.
- Expertise in a wide variety of disciplines including aerodynamics, sensors, visualization technology, Internet of Things, and cybersecurity.
- A hub of academic talent featuring leading researchers and top engineering student talent.

Quote

"Project Arrow is an exciting initiative that provides Ontario Tech University with the opportunity to showcase its research expertise in automotive engineering, autonomous vehicles and electrification systems, and advanced manufacturing 4.0. It reflects the immense value the university places on industry partners including especially members of Canada's Automotive Parts Manufacturers' Association."

-**Dr. Les Jacobs**, Vice-President, Research and Innovation Ontario Tech University

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