**Advance Contract Award Notice (ACAN)**

**ACAN # 22-58041**

**Design and Development of a Reconfigurable Driver-in-the-Loop Simulation System**

1. Advance Contract Award Notice (ACAN)
   An ACAN is a public notice indicating to the supplier community that a department or agency intends to award a contract for goods, services or construction to a pre-identified supplier, thereby allowing other suppliers to signal their interest in bidding, by submitting a statement of capabilities. If no supplier submits a statement of capabilities that meets the requirements set out in the ACAN, on or before the closing date stated in the ACAN, the contracting officer may then proceed with the award to the pre-identified supplier.

2. Definition of the requirement

The National Research Council of Canada's Transportation Engineering Centre (NRC-TEC) requires engineering services to conduct the background research, engineering design and development of a reconfigurable driver-in-the-loop (DIL) simulation system to support NRC-TEC's research in heavy-duty highway and off-road vehicle systems.

In support of NRC's ground transportation research programs, NRC-TEC plans to design and develop a reconfigurable DIL simulator system for both on-road transport trucks and off-road vehicles.

3. Criteria for assessment of the Statement of Capabilities (Minimum Essential Requirements)

In addition to having extensive expertise in haptics, motion and vehicle simulation in both on-road and off-road vehicle systems for driver-in-the-loop simulation, the Vendor must have proven experience designing and integrating into a single software and hardware platform, ultra-realistic haptic and 6-DOF hexapod motion base with an integrated 1-DOF rotational system for improved dexterity, larger yaw motion range, and high-fidelity motion effect. Motion systems must be compatible with NRC's real-time vehicle simulation models developed with the software development kit (SDK) Vortex. The Vendor must have proven expertise integrating Unreal Engine for visuals as well as a high-fidelity Vortex Studio vehicle simulation connected to the game-engine and driving the haptics and motion system.

4. This procurement is subject to the following trade agreement(s)
    - *Canadian Free Trade Agreement* (CFTA)
    - Revised *World Trade Organization - Agreement on Government Procurement* (WTO-AGP)
    - *Canada-European Union Comprehensive Economic and Trade Agreement* (CETA)
    - *Comprehensive and Progressive Agreement for Trans-Pacific Partnership* (CPTPP)
    - *Canada-Chile Free Trade Agreement* (CCFTA)
    - *Canada-Colombia Free Trade Agreement*
    - *Canada-Honduras Free Trade Agreement*
    - *Canada-Korea Free Trade Agreement*
    - *Canada-Panama Free Trade Agreement*
    - *Canada-Peru Free Trade Agreement* (CPFTA)
    - *Canada-United Kingdom Trade Continuity Agreement* (Canada-UK TCA)
    - *Canada-Ukraine Free Trade Agreement* (CUFTA)

5. Justification for the Pre-Identified Supplier

Touché is a leading expert in haptics, motion and its application to vehicle simulation. Its core business is the development of its software and hardware haptics platform. Over the past 10 years, Touché has developed innovative and demanding haptics solutions for surgical, flight, and driving simulators. Touché has been called upon to develop custom solutions for aircraft flight controls used in flight training simulators as well as haptics technology for spinal surgery simulation for a leading US medical research institute. Unlike most vendors, Touché designs and manufactures almost the entirety of its solution internally and relies very little on off-the-shelf generic hardware and software components that are not designed for haptics. Touché's centralized control system is integrated in a unified software and hardware architecture and produces synchronized and highly realistic effects evident from high-fidelity experience delivered by Touché's products.

Most recently, Touché has developed a high performance motion and haptics system targeted specifically at driving simulation, called TDrive. The TDrive solution is unique since it allows the high-speed control of all haptic and motion devices from a single control architecture. Touché also has extensive expertise in realtime multibody dynamics and vehicle simulation. They are specialists in simulating off-highway and military equipment for both wheeled and tracked vehicles with advanced wheel contact models.

*6.* Government Contracts Regulations Exception(s)

The following exception(s) to the *Government Contracts Regulations* is *(are)* invoked for this procurement under subsection 6(d) - *"only one person is capable of performing the work".*

7. Exclusions and/or Limited Tendering Reasons

Canadian Free Trade Agreement (CFTA) – Article 513 (1) (b) (iii): due to an absence of competition for technical reasons;

World Trade Organization - Agreement on Government Procurement (WTO-AGP) – Article XIII (b) (iii): due to an absence of competition for technical reasons;

Canada-European Union Comprehensive Economic and Trade Agreement (CETA) – Article XIII (b) (iii): due to an absence of competition for technical reasons;

Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) – Article 15.10 (2) (b) (iii): due to an absence of competition for technical reasons;

Canada-Chile Free Trade Agreement (CCFTA) – Article Kbis-16 (2) (c): necessary to protect intellectual property;

Canada-Colombia Free Trade Agreement – Article 1409 (1) (b) (iii): due to an absence of competition for technical reasons;

Canada-Honduras Free Trade Agreement – Article 17.11 (2) (b) (iii): due to an absence of competition for technical reasons;

Canada-Korea Free Trade Agreement – referencing the WTO Protocol Amending the GPA, Article XIII (1) (b) (iii): due to an absence of competition for technical reasons;

Canada-Panama Free Trade Agreement – Article 16.10 (1) (b) (iii): because of the absence of competition for technical reasons;

Canada-Peru Free Trade Agreement (CPFTA) –Article 1409 (1) (b) (iii): due to an absence of competition for technical reasons;

Canada-Ukraine Free Trade Agreement (CUFTA) – Annex 10-6 (2) (a): any form of preference, including set asides, to benefit micro, small and medium enterprises; and

Canada-United Kingdom Trade Continuity Agreement: refer to CETA as the provisions of CETA are incorporated by reference into and made part of this Agreement. (CETA) Article 19.12 (b) (iii).

8. The proposed contract is for a period of 1 year, from October 1, 2022 to October 1, 2023.

9. The estimated value of the contract is *$ 300,000.00* + (13% HST).

10. Name and address of the pre-identified supplier

Touche Technologies

100-1872 rue Notre-Dame West,

Montreal, QC, H3J 1M6

11. Suppliers who consider themselves fully qualified and available to provide the goods, services or construction services described in the ACAN may submit a statement of capabilities in writing to the contact person identified in this notice on or before the closing date of this notice. The statement of capabilities must clearly demonstrate how the supplier meets the advertised requirements.

13. The closing date and time for accepting statements of capabilities is:

September 13, 2022 at 2:00 p.m. EDT

14. Inquiries and submission of statements of capabilities Inquiries and statements of capabilities are to be directed to:

Carol Cooper -Senior Contracting Officer

Telephone: 902-293-8053

E-mail: carol.cooper@nrc-cnrc.gc.ca