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Public Works and Government Services / Travaux
publics et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3
Bid Fax: (613) 545-8067

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
fournisseur/de l'entrepreneur

Issuing Office - Bureau de distribution
Public Works and Government Services / Travaux
publics et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3

Title - Sujet Collaborative Robot Arms	
Solicitation No. - N° de l'invitation 23584-200544/A	Amendment No. - N° modif. 001
Client Reference No. - N° de référence du client 23584-200544	Date 2019-11-27
GETS Reference No. - N° de référence de SEAG PW-\$KIN-930-7960	
File No. - N° de dossier KIN-9-52138 (930)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2020-01-06	
Time Zone Fuseau horaire Eastern Standard Time EST	
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes	
Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Littlefield, Mike	Buyer Id - Id de l'acheteur kin930
Telephone No. - N° de téléphone (613) 545-8058 ()	FAX No. - N° de FAX (613) 545-8067
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)	
Signature	Date

Amendment 001 – is being issued in response to Offeror's questions and Canada's responses.

Q1: *The technical requirement as written clearly specifies a minimum requirement for robot arms. The requirement does not address what is meant by a Collaborative Robot Arm.*

Is it correct to assume that the robot arms are intended to collaborate independent of a human?

A1: Collaborative robots are probably the most worker friendly robot since it can work alongside humans without any additional safety devices (small percentage of industrial robots meets this designation). The robot can feel abnormal forces in its path. In fact, it is programmed to stop when it reads an overload in terms of force. These robots are also designed to dissipate forces in case of impact on a wide surface, which is one of the reasons why the robots are rounder. They also don't have exposed motors. A lot of these robots are certified by third parties who focus on industrial safety for human-robot collaboration.

Particular Features of these robots:

- Not your regular industrial robot
- Has force limited features. (ability to read forces in their joints and they can respond immediately if they come into contact with a human and perhaps dissipate some of the energy transferred from the impact.)
- Does not require additional safety devices (in most cases, still requires a risk assessment).
- Used for direct collaboration with the worker for various tasks.

Q2: *Also the requirement indicates that the robot arms are expected to do some sort of operation automatically, but does not seem to indicate a need for a tool that a human uses to define collaborative operations for the arms to perform. Is this type of tool required?*

A2: The robot arm is expected to perform operations automatically. Collaborative aspect of the robot has nothing to do with end tooling. A regular gripper (two jaws is sufficient).

ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED