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# Consultation

## N° 598750 - EPP-1-2018/2021



**Project reference number:**  
**598750 - EPP-1-2018-1-DE-EPPKA2-CBHE-JP**  
*COOPERATION FOR INNOVATION AND THE EXCHANGE OF  
GOOD PRACTICES – CAPACITY BUILDING IN HIGHER  
EDUCATION*  
**ERASMUS+ PROGRAMME**

### Acquisition of equipment for Erasmus+ Project

(Ref n° 598750 - EPP-1-2018-1-DE-EPPKA2-CBHE-JP)

### INTERNATIONAL MASTER OF COMPUTER SCIENCE ON CYBER PHYSICAL SYSTEMS MS@CPS

2021

## Detail on the project subject of this consultation

### MS@CPS : INTERNATIONAL MASTER OF COMPUTER SCIENCE ON CYBER PHYSICAL SYSTEMS

**Type:** EU - KA2 - Cooperation for innovation and the exchange of good practices - Capacity Building in the field of Higher Education

#### **Description:**

MS@CPS is an Erasmus + project on Computer Systems on Cyber Physical Systems.

The Main goal of MS@CPS

is to establish an International Master of Science on Cyber



Physical Systems. The envisioned master programme will focus on the contemporary recent technologies in the fields of Embedded Systems (ES) and Knowledge-based Systems (KBS) that provide the needed expertise for a CPS education and tremendous economic opportunities and furthermore span various important applications in our daily life such as: Internet of Things (IoT), autonomous cars, smart phones, embedded systems, big data, semantic computing, cloud computing, etc.

The curriculum of MS@CPS program will be designed by analyzing the existing curricula in the area of embedded and knowledge-based systems, then a field study of market requirements and needs in the MENA region will be conducted. In parallel, the consortium members will review and examine pedagogical teaching and learning methods to fulfil the program objectives. Further, the curriculum of MS@CPS will be strongly aligned with the special requirements of the industry in the MENA countries in order to establish the skills of the students for strengthening the economy. In particular, MS@CPS will arrange several activities in cooperation with the industry partners to provide an open platform for students and industry, which will strengthen the students' skills and establish joint internships and master thesis. By providing solid skills in entrepreneurship and adopting proven mechanisms from program countries, the graduated students of MS@CPS will be able to establish their own start-ups. The project aims also at promoting Bologna Process standards in the in South

Mediterranean region.

## ADMINISTRATIVE CLAUSES

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### Article 1: Terms of Reference

The Higher Institute of Computer Sciences and Multimedia - University of Sfax launches a consultation for the acquisition of equipment in for the project **MS@CPS : INTERNATIONAL MASTER OF COMPUTER SCIENCE ON CYBER PHYSICAL SYSTEMS.**

### Article 2: Purpose of the consultation

The **MS@CPS Erasmus+** project intends to acquire Software and AI engineering LAB (MS@CPS) equipment for the benefit of the **University of Sfax-Higher Institute of Computer Sciences and Multimedia-ISIMS.**

### Article 3: Method of sending bid envelopes

Tenders must be sent to the University of Sfax office during the work schedule by registered, fast-track or hand-delivered no **later than: June 19, 2021, at 12:00 pm** with the following mention:

Do not open, Consultation **0../2021 MS@CPS: Acquisition of Software and AI engineering LAB (MS@CPS) equipment for the MS@CPS - Erasmus project.**

**Address : Université de Sfax. Route de l'Aéroport Km 0.5 BP 1169 -3029 Sfax,**

The stamp of the office of order of the **University of Sfax - ISIMS** or the post office being authentic.

The outer envelope includes, in addition to the two technical and financial offers, the following administrative documents:

- ✓ These specifications signed and initialed,
- ✓ The tax certificate provided by the legislation in force, valid. (Only for Tunisian Society)
- ✓ A certificate of affiliation to the CNSS, (Only for Tunisian Society)
- ✓ A copy of the register of commerce, (Only for Tunisian society)

- ✓ Letter of submission (Annex 01).
- ✓ Declaration of honor of no influence (Annex 02).
- ✓ Declaration of honor (Annex 3).
- ✓ Price slips (Annex 5).

The financial offer includes the duly completed and signed price schedule,

The technical offer includes the answer form + complete technical documentation (flyer- photo-sheets-etc.), obligatorily bearing the stamp of the tenderer

**Note:** The tenderer must provide all the characteristics (make - model) of all the elements constituting his tender and carefully fill in the point - by - point answer form.

#### **Article 4: VALIDITY PERIOD OF THE OFFER:**

All bidders will be bound by their bid for ninety (90) days from the day following the deadline set for receipt of bids. During this period, the bidder's proposed prices will be firm and non- revisable, on pain of nullity of the corresponding offer.

#### **Article 5: ELECTION OF DOMICILE**

For the performance of the consultation, the successful supplier elects domicile in his residence. In case of change of address, the holder of the contract must obligatorily and immediately inform the administration at any stage of execution of the consultation in question.

#### **Article 6: CHOICE OF OFFERS:**

✓ The financial comparison of the offers will be done by lot on the basis of the CFR (cost and freight) prices for residents and non-residents, after converting all the currency offers to Tunisian Dinars, applying the exchange rate on the day of the opening of the technical folds.

✓ In a first place, the internal commission proceeds with the opening of the bids and the counting of the financial offers batch by batch in an increasing order: the lowest bid is only admitted for the technical recounting

✓ If the lowest bid meets the technical requirements, it will be selected otherwise, the next bid will be examined in the same way and in the increasing order of the financial offers.

✓ The offers will be evaluated financially by lot (with the possibility of partial acquisition). The technical non-compliance of an Item is rejected.

✓ The offer must be presented in separate lots.

✓ Each tenderer must submit one basic offer without variants. Any variant will not be considered.

#### **Article 7: COMPLIANCE OF EQUIPMENT:**

The supply must comply with the characteristics and technical specifications given at the time of submission and specified on the descriptive sheets attached to the offer. The University of Sfax reserves the right to call on experts or technicians of its choice to examine the equipment or products to be received.

In the case where the material or product does not comply with those required by the University of Sfax and whose technical characteristics prove to be not in conformity with those specified in the technical instructions attached to the offer, the expert's fees will be at the expense of the supplier without prejudice to the replacement of rejected equipment or products. Equipment or products missing, deteriorated or not in conformity with the offer will be the object of a statement, under which the University of Sfax will ask for its replacement or an indemnity compensation for the damage suffered.

#### **Article 8: METHOD OF PAYMENT:**

Payment will be made by the European Union via a European University (University of Siegen - Germany) by a bank transfer upon presentation of a pro-forma invoice in four (4) copies with the delivery notes plus the receipt reports.

**NB:** Invoices and quotes must include the following data: University of Sfax - ISIMS.

#### **Article 9: GUARANTEE:**

The supplier guarantees the material to be delivered against any defect of manufacture or defect of material during a minimum period of one (1) year or more than one year, these cases will be specified in the technical characteristics, as from the date of reception Provision of equipment or products installed. This warranty includes material, labor and travel.

The supplier warrants that all supplies delivered under this consultation are new, have never been used, are the most recent model in use and include all the latest design and material improvements.

#### **Article 10: TIME LIMIT**

The consultation must be performed for the entire order. The execution period takes effect from the date fixed in the service order by the administration; this period is fixed at 30 days. "Delivery time" means the delivery, the installation of equipment, with a detailed execution schedule that must include three components, namely: shipping, on-site delivery, installation and start-up. Ordered material.

## **Article 11: RECEPTION**

The administration intends to buy equipment according to the rules of art, installed, and in working order. The receipt (in two phases) will be pronounced by the commission provided for this purpose, constituted by the representatives of the supplier and the Administration, on the basis of the conditions of the bid submitted by the tenderer in accordance with the technical specifications retained by the administration.

Reception will only be possible if the equipment and installation work meet the specifications specified in the specifications.

In case of refusal of equipment presented on provisional acceptance, because of the successful tenderer, the latter will bear the expenses related to the interventions necessary for its acceptance (equipment, services, etc.)

The reception of the equipment is done in two phases:

- ✓ Phase 1 Delivery: will be established following on-site delivery.
- ✓ Phase 2 "reception": PV will be established after switching on the equipment and checking the correct operation.

## **Article 12: COMPLAIN**

Any claim of any kind whatsoever concerning the execution of this consultation and the installation of the material must be addressed to the University of Sfax Order Office.

## **Article 13: PENALTY OF DELAY**

If delivery times are exceeded, the supplier will be subject to a late penalty equal to 1/1000 for each day of unjustified delay, capped at 5% of the total amount of the supply.

## **Article 14: LITIGATION OR DISPUTE**

In the event of a dispute or dispute arising during the performance of the contract and failing an amicable solution, jurisdiction shall be conferred on the competent courts of Sfax.

Any contractor entered into between the successful bidder and the University of Sfax will be governed by its interpretation and execution by Tunisian law/European law.

## Article 15: REGULATION

For all that is not stipulated in the provisions of these specifications, the execution of this consultation will be governed by:

- The code of public accounting.
- Decree No. 1039 -2014 of 13 March 2014, regulating public procurement.

Sfax, on.....

**READ AND ACCEPTED**  
The bidder

**N.B.:** The specifications and its annexes must be returned to the **University of Sfax-ISIMS** in their original form duly signed and initialed by the tenderer.



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# Minimum technical specifications

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## 1 Introduction

This document presents the characteristics and expected functionalities of the Software Development Lab. The equipment installation is scheduled **30 days** from the date of placing the order form.

## 2 General

The tenderer must provide all the characteristics (make - model) of all the elements constituting his tender and carefully fill in the answer form point by point.

The tenderer must deliver the material in question to the premises of the University of Sfax

List of equipment:

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# Technical specifications

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<b>Beneficiary</b> University of sfax Higher Institute of computer sciences and Multimedia of Sfax	 المعهد العالي للإعلامية و المتعدديا بصفاقس	 جامعة صفاقس Université de Sfax
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Technical offer  
**Answer Form for equipment's acquisition**  
**Équipements pour laboratoire d'ingénierie Logicielle**  
**(Software and AI Development Lab)**

## Equipments Overview

Item	Quantity
1. Station de travail - Workstation	5
2. Carte graphique RTX pour Apprentissage profond : GPU	3
3. Ordinateur portable pour Calcul GPU avec port Thunderbolt3	4
4. Ordinateur de bureau pour Intelligence artificielle	4
5. Boitier externe pour carte GPU - thunderbolt	3
6. Programmable Robot pour Arduino	5
7. Tablette industrielle ANDROID	3
8. Carte GPU Externe Developer Kit NX	3
9. J Carte GPU Externe Developer Kit AGX	3

## Answer Form for equipment's

<b>Article 1 : Station de travail - Workstation</b>	<b>QTE : 5</b>
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<b>Fournisseur :</b>		
<b>Spécifications</b>	<b>Caractéristiques minimales exigées</b>	<b>Caractéristiques Techniques</b>
<b>Marque / Modèle / Pays d'origine</b>		
SYSTEME D'EXPLOITATION	Windows 10 Pro	
PROCESSEUR	BUS système 8GT/s 8 Coeurs et 16 threads, 16 Mo cache	
MEMOIRE	64 GB DDR4  Latence du cycle CL 17 Tension 1,2 V	
Stockage	1 TB SSD Capacité : 1000 Go Interface : M.2 PCIe NVMe 3.0 x4 Vitesse de lecture : 3500 Mo / s Vitesse d'écriture : 3000 Mo / s	
Stockage	2TB HDD Capacité : 2000 Go Interface : SATA III Format : 3,5 " Vitesse : 7 200 T/min	
CARTE GRAPHIQUE	4GB GDDR6  Fréquence du chipset 1 410 MHz Fréquence boostée 1635 MHz BusnPCI Express 3.0 16x Taille mémoire vidéo 4 Go Interface mémoire 128 bit(s) Fréquence mémoire vidéo 12000 MHz Type de mémoire GDDR6	
carte mère	Compatible avec processeurs Intel® Core 9ème Génération	

	<p>™ Memory Ready  Dual Channel Non-ECC  Unbuffered DDR4  PWM Numérique 10+2 Phases  chipset intel</p> <p>Dual M.2 PCIe Gen3 X4 (1 avec  Thermal Guard) &amp; SATA</p> <p>2-Way CrossFire™ Multi-  Graphics PCIe Armor et Ultra  Durable™</p> <p>Intel® USB 3.1 Gen2 Type-A  Intel® GbE LAN avec cFosSpeed</p> <p>Ultra Durable™ Protection ESD  Smart Fan 5 incluant Multiples  Capteurs de Températures,  Headers Hybrides pour  Ventilateurs avec FAN STOP</p> <p>Intel® Thunderbolt™ 3 AIC</p> <p>Intel® Optane™ Memory Ready</p>	
Ecran	Min 22 pouces	

<b>Article 2 : Carte graphique with CUDA pour Apprentissage profond : GPU</b>	<b>QTE : 3</b>
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<b>Fournisseur :</b>		
<b>Spécifications</b>	<b>Caractéristiques minimales Exigées</b>	<b>Caractéristiques Techniques proposées</b>
<b>Marque / Modèle / Pays d'origine</b>		
<b>Fréquence de base</b>	1,35 GHz (1,5 GHz avec boost) Fréquence mémoire vidéo 14000 MHz Type de mémoire GDDR6	
<b>Mémoire standard</b>	11 Go GDDR6  Fréquence mémoire vidéo 14000 MHz Type de mémoire GDDR6	
<b>Fitness de gravure</b>	12nm	
<b>Consommation</b>	285 W	
<b>Alimentation recommandée</b>	650 W	

<b>Fournisseur :</b>		
<b>Spécifications</b>	<b>Caractéristiques minimales exigées</b>	<b>Caractéristiques Techniques proposées</b>
<b>Marque / Modèle / Pays d'origine</b>		
<b>PROCESSEUR</b>	Intel Core i5 i5-10300H 4 cœurs I5 10ème Gen	
<b>Fréquence Processeur</b>	up to 4.5 GHz 2,5 GHz, jusqu'à 4,5 GHz Technologie Intel® Turbo Boost, 8 Mo de mémoire L3 cache	
<b>MEMOIRE</b>	8 Go Mémoire SDRAM DDR4-2933 8 Go (2 x 4 Go)	
<b>DISQUE DUR</b>	1TB+512SSD Disque SSD PCIe® NVMe™ M.2 512 Go Disque dur SATA 1 To 7200 tours/min	
<b>CARTE GRAPHIQUE</b>	RTX 2060 6Go Type mémoire GDDR6 Fréquence mémoire 14000 MHz Bande passante de la mémoire 336.0 Gb/s	
<b>Ecran</b>	FULL HD 144Hz Écran Full HD Diagonale 15,6 pouces) 144Hz	
<b>Port ThunderBolt</b>	Oui 1 port Thunderbolt 3 (vitesse de transfert de 40 Gbit/s)	
<b>Système d'exploitation</b>	WINDOWS 10 64 bits	

<b>Article 4 : Ordinateur de bureau pour Intelligence artificielle</b>	<b>QTE : 4</b>
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<b>Fournisseur :</b>		
<b>Spécifications</b>	<b>Caractéristiques minimales exigées</b>	<b>Caractéristiques Techniques proposées</b>
<b>Marque / Modèle / Pays d'origine</b>		
<b>SYSTEME D'EXPLOITATION</b>	Windows 10	
<b>PROCESSEUR</b>	Intel Core i7-10700 up to 4.8 GHz	
<b>Mémoire cache</b>	16 Mo	
<b>MEMOIRE</b>	16 GB DDR4	
<b>DISQUE DUR</b>	1 TB SSD	
<b>CARTE GRAPHIQUE</b>	Intel HD graphics	
<b>Ecran</b>	22'' Full HD (même marque que l'unité)	
<b>Clavier et souris</b>	Même marque que l'unité	

<b>Article 5 : Boitier pour carte graphique</b>	<b>QTE : 3</b>
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<b>Fournisseur :</b>		
<b>Spécifications</b>	<b>Caractéristiques minimales exigées</b>	<b>Caractéristiques Techniques proposées</b>
<b>Marque / Modèle / Pays d'origine</b>		
<b>Compatibilité</b>	compatible avec les ordinateurs MacOS et PC avec Windows 10 et Linux OS	
<b>Type de connecteur</b>	Thunderbolt, USB, HDMI	
<b>Bus</b>	Thunderbolt 3	

<b>Article 6 : Programmable Robot pour Arduino</b>	<b>QTE : 5</b>
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<b>Fournisseur :</b>		
<b>Spécifications</b>	<b>Caractéristiques minimales exigées</b>	<b>Caractéristiques Techniques proposées</b>
<b>Marque / Modèle / Pays d'origine</b>		
<b>Spécification</b>	Programmable Robot pour Arduino	
<b>Caméra</b>	Caméra HD Résolution 480 p minimum	
<b>Modules</b>	Bluetooth, WIFI FPV -	
<b>Compatibilité</b>	Arduino/ Raspberry Pi	

Fournisseur :

<b>Spécifications</b>	<b>Caractéristiques minimales exigées</b>	<b>Caractéristiques Techniques proposées</b>
<b>Marque / Modèle / Pays d'origine</b>		
<b>Processeur</b>	Octa core Qualcomm Snapdragon 660 Octa-core up to 2.2 GHz	
<b>RAM</b>	3 GB	
<b>Stockage</b>	64 GB	
<b>Connectivité</b>	Webcam, WiFi, WLAN, 4G LTE, 4G, with NFC reader, sunlight-readable, GNSS	
<b>Ecran</b>	Multitouch ( minimum 7'' )	



**Article 8 : Carte GPU Externe Developer Kit****QTE : 3**

Fournisseur :

Spécifications	Caractéristiques minimales exigées	Caractéristiques Techniques proposées
Marque / Modèle / Pays d'origine		
GPU	48 Tensor cores	
Development Kit	Jetson Xavier NX Developer Kit	
CPU	64-bit CPU 6 MB L2 + 4 MB L3	
Mémoire	8 GB 128-bit LPDDR4x @ 51.2GB/s	
Affichage	HDMI 2,0 / EDP 1,4 / 2x DSI / 2x 1,2 DP	
Connectivité	01 Gigabit Ethernet, WLAN 802.11ac, Bluetooth	
Stockage de données	32 GB eMMC, SDIO	
USB	USB 3.0 +USB 2.0	
Puissance	7.5 W/ 15 W	

Fournisseur :		
Spécifications	Caractéristiques minimales exigées	Caractéristiques Techniques proposées
Marque / Modèle / Pays d'origine		
GPU	512-core Volta GPU with Tensor Cores	
CPU	8-core ARM v8.2 64-bit CPU, 8 MB L2 + 4MB L 3	
Mémoire	32GB 256-Bit LPDDR4x   137 GB/s	
Stockage de données	32GB eMMC 5.1	
Taille	105 mm x 105 mm x 65 mm	
Déploiement	Module (Jetson AGX Xavier)	

Annex 5

Higher Institute of Computer Sciences and Multimedia - University of Sfax

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**BORDER PRICES**

Acquisition of Software Development Lab within the framework of the project:  
MS@CPS : INTERNATIONAL MASTER OF COMPUTER SCIENCE ON CYBER PHYSICAL SYSTEMS

Full Company Name :

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Tax identification number

:.....

N°	ITEM	Quantity	Country of Origin	U.P.E.T.*	Total E.T. *
1	Station de travail - Workstation	5			
2	Carte graphique RTX 2080ti pour Apprentissage profond : GPU	3			
3	Ordinateur portable pour Calcul GPU avec port Thunderbolt3	4			
4	Ordinateur de bureau pour Intelligence artificielle	4			
5	Boitier externe pour carte GPU - thunderbolt	3			
6	Programmable Robot pour Arduino	5			
7	Tablette industrielle ANDROID	3			

<b>8</b>	Carte GPU Externe Developer Kit NX	3			
<b>9</b>	Carte GPU Externe Developer Kit AGX	3			
<b>Total Amount</b>					

**\*Unit Price Excluding Tax (U.P.E.T)**

**\* CFR price base (cost and freight) Excluding Tax.**

**NB:** residents must present their prices in Tunisian Dinars. Non-residents must present their prices in foreign currency (Euros or Dollars).

**Total amount in words in Euro**

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 .....

**(Signature and stamp of the tenderer)**

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# ANNEXES

**Annex 01**

UNIVERSITY OF SFAX - ISIMS

Sfax, on.....

**SUBMISSION**

Subject: MS@CPS Software Engineering Lab on behalf of the project **MS@CPS-Erasmus+**

I, the undersigned

Company denomination :

Headquarters (address):

Telephone:

Fax:

Tax registration number :

CWB No .:

Certify to have reviewed the specifications, concerning consultation **598750 - EPP-1-2018/2021 MS@CPS**, and have no reservations and have collected, by my own care and under my full responsibility, all information necessary for the perfect execution of my possible obligations as they derive from the various provisions of these specifications for the acquisition of the equipment MS@CPS Software Engineering LAB, within the framework of the **MS@CPS Erasmus+** project, for the Higher Institute of Computer Sciences and Multimedia - University of Sfax", and I pledge on the honor that the information provided above is accurate.

We undertake to provide, in accordance with the technical specifications and specifications, the related supplies and services.

The total amount of my tax-free submission is (in words):

.....

(Signature and stamp of the tenderer)

## Annex 02

# Declaration of honor of no influence

I, the undersigned:

Chief Executive Officer (CEO) - Manager :

Declares on the honor of not having done and undertakes not to do by myself or by an intermediary, promises, gifts or presents in order to influence the different procedures for concluding a market and the stages of its realization.

Done at: ..... on, .....

(Name and surname, Quality,  
Stamp and signature of the authorized  
person to engage the company)

## Annex 03

### Declaration on honor

I, the undersigned:

Chief Executive Officer (CEO) - Manager :

Declare on the honor that I was not a public official at the University of Sfax, having stopped my activity for less than five years.

Done at: ..... on, .....

(Name and surname, quality, stamp and signature of the person authorized to commit the company )