

# LETTER OF TENDER

## IDENTIFICATION OF THE PUBLIC TENDER AND THE PROCUREMENT

title of the Tender / Procedure	LED projection system II.
type of procurement	negotiated procedure with prior publication

# LETTER OF TENDER

## TENDERER IDENTIFICATION (ONE TENDERER)

title	<b>Evans &amp; Sutherland Computer Corporation</b>
registered office	770 South Komas Drive, Salt Lake City, Utah, 84108
VAT number	87-1278175 (US Tax Identification Number)

## CONTACT PERSON

name	<b>Christophe Bertier</b>
phone	00 (49)15202182844
e-mail	christophe.bertier@cosm.com

# LETTER OF TENDER

## TENDERER IDENTIFICATION (MULTIPLE TENDERERS SUBMITTING A JOINT TENDER)

title	
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[insert tenderer designation; e.g. companion 1]

title	
registered office	
VAT number	

[insert tenderer designation; e.g. companion 2]

title	
registered office	
VAT number	

[insert tenderer designation; e.g. companion 3]

title	
registered office	
VAT number	

## CONTACT PERSON

name	
phone	
e-mail	

## JOINT LIABILITY FOR THE PERFORMANCE OF THE TENDER

All tenderers who have jointly submitted this Letter of tender shall be jointly and severally liable for the performance of the Tender.  
Tenderers shall, at the request of the Contracting Authority, submit a document which clearly shows this fact, e.g. a contract among tenderers.

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## TENDER PRICE

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The tenderer offers to design, execute and complete the Works and remedy any defects therein, in conformity with this Tender for the lump sum of:

149 999 998,00
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 CZK excl. VAT

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## SCHEDULE OF PAYMENTS

The Contract Price will be paid in the instalments set out below once the following milestones are met:

No.	Milestone	Time limit for completion in calendar days	Beginning of the time limit	Percentage of the instalment on the Contract Price	Amount of installment in CZK excl. VAT
0	Advance Payment (see Sub-Clause 14.2)	-	-	25,00%	37 499 999,50
1.	provision of workstations equipped with fully licensed visualization software for training purposes	60	Commencement Date	5,00%	7 499 999,90
2.	submitting of Design documentation (in accordance with Sub-Clause 5.2)	60	Commencement Date	10,00%	14 999 999,80
3.	delivery of Goods on Site and commencement of on-site installation	-	-	20,00%	29 999 999,60
4.	Completion of the Works	300	Commencement Date	30,00%	44 999 999,40
5.	Taking-Over Certificate issued	-	-	10,00%	14 999 999,80

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## INFORMATION FOR TENDERERS

*The tenderer does not fill in any cells in the Schedule of Payments; all amounts are in CZK excluding VAT.*

*The amounts of instalments are automatically calculated from the Tender price at a ratio determined by the Employer.*

# LETTER OF TENDER

## ANNEXES

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- **Appendix to Tender**
  - **Contractor's Proposal**
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## CLARIFICATION PHASE

The Letter of Tender shall be interpreted in accordance with the documents submitted and sample test results during the clarification phase as per Clause 9 of the Tender documentation. Tenderer shall act in accordance with such documents, as may be modified in accordance with the Contract, and sample test results in the performance of the Contract.

## DATA, DOCUMENTS AND EVIDENCE TO BE SUBMITTED

Tenderer must, at the request of the contracting authority, submit electronically:

- (a) **affidavit of the tenderer that neither the tenderer nor its subcontractor** , whose share in the performance of the public Contract exceeds 10% of its value (if any), **is a person prohibited from awarding the public contract** pursuant to Article 5k of Regulation (EU) No 833/2014
- (b) **details and** at least plain copies of the **documents of the beneficial owner of the tenderer** (if it is a foreign legal entity) pursuant to Section 122 (5) of the Public Procurement Act.
- (c) **basic qualification documents** (pursuant to Section 75 and/or 81 of the Public Procurement Act.) in the form of electronic originals or authorised conversions of paper originals into electronic form
- (d) **professional qualification documents** (pursuant to Section 77 (1) and/or 81 of the Public Procurement Act.) in the form of electronic originals or authorised conversions of paper originals into electronic form

## SAMPLE TESTS

Tenderer must, at the request, allow the contracting authority to carry out sample tests on selected components to verify compliance with the required features listed below. If requested, the Tenderer must prepare the test setup according to the requirements listed below.

The tests shall be carried out by an **expert committee**, appointed by the contracting authority, which shall decide on the fulfillment of the relevant requirement **on the basis of the test definition and its expert judgement, or on the basis of measurements** taken with the measuring equipment listed below (if applicable).

ref. to Employer's Requirements	requirement of Employer's Requirments	test setup to be prepared by Tenderer	test definition	expert judgement / measuring equipment	location of the sample component
2.2. (b)	the LED modules must be made of black mat perforated backing material. The perforation ratio of the panels must be at least 19 %	LED modules	Visual examination. The material must be matte black and contain perforations.	judgement of the expert committee	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (e)	dome structure, LED modules and all other components of the display system must not produce cross reflection (the Tenderer/Contractor must be able to clearly show how cross reflection is avoided under any dome content display at the reference project or prototype site)	Fully running LED screen prototype or existing installation (dome diameter at least 12 m; continuous surface covering at least 180 x 90 degrees) displaying test scene: White circle defined as an intersection of the LED surface and a cone with 20 degrees top angle (the cone top is in the centre of the dome). The white circle has intensity 300 nit. Rest of the dome displays black signal (RGB=0,0,0, powered up).	The dome is considered to have „no cross reflection“ (in terms of Employer's requirements) if: 1. The measured luminance of any spot on the dome in distance of at least 50° from the center of the white circle is below 0.3nits. 2. The LED-display surface in distance more than 40° from the white circle center is uniform without any objectionable texture. Both criteria can be evaluated for any position of the white circle on the dome.	Calibrated Spot Photometer (measuring Luminance in cd/m²) Note: cd/m²2 is numerically equivalent to nit Measurements will be taken from the center of the dome.	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (j)	the image processing pipeline must include a system to minimize visibility of LED module edges. There must be no easily visible "grid pattern" with the system active	Fully running LED screen prototype or existing installation.	There must be significant near to total reduction of panel edge visibility while system active compared to inactive state while displaying white uniform signal of any intensity up to 300 nit.	judgement of the expert committee	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (l)	display system must include an advanced level light control to provide high detail control of the LEDs and to expose subtle details and tones in low light, low contrast scenes	Fully running LED screen prototype or existing installation displaying gradient of bottom 128 levels of gray (RGB [0,0,0] to [128,128,128]). Minimum single colour sample size is 20x800 px (complete gradient min. 2560x800 px). The rest of the LED surface emits no light and the testing environment is completely dark (no other light sources).	The LED surface must display smooth gradient without any human-eye recognizable steps, patterns or edges. The location for the test is at the center of the dome.	judgement of the expert committee	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (n)	display system must include a per pixel camera-based calibration that corrects brightness and colour uniformity across the entire dome.	Fully running LED screen prototype or existing installation.	The calibration system is launched after the physical change of one (any) LED panel. The image should fulfill all the requirements (colour and brightness uniformity, edge compensation, cross reflection etc.) after that.	judgement of the expert committee	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (o)	at full brightness, display system must be capable of delivering brightness of at least 300 nit (the Tenderer/Contractor must specify the maximum brightness possible without compromising colours in the Contractor's Proposal)	Fully running LED screen prototype or existing installation displaying uniform non compromised colour.	The measured brightness must be at least 300 nit.	Calibrated Spot Photometer (measuring Luminance in cd/m²2)	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (p)	display has to deliver flicker-free and moire-free image of any content including special testing visual patterns like angled line grids or slow moving dim starfields	Fully running LED screen prototype or existing installation (dome diameter at least 12 m; continuous surface covering at least 180 x 90 degrees).	The provided test images must not produce any eye-detectable flickering, moire or patterning effects moved at any speed across the whole LED screen surface. The location for the test is at the center of the dome.	judgement of the expert committee	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA
2.2. (q)	display system must offer uniform colour across the entire display at every brightness level; LEDs corresponding to pixels displaying a true black (RGB = #000000) must emit no light;	Fully running LED screen prototype or existing installation (dome diameter at least 12 m; continuous surface covering at least 180 x 90 degrees) displaying uniform colour (any from the display's gamut).	The LED surface displays any test colour without any recognizable texture of any scale. The luminance of the surface is constant with the measurements all being within 5% of each other. The LED surface displaying true black colour must have no radiation ~ 0 nit.	Calibrated spot luxmeter.	Cosm Experience Center, 770 South Komas Drive, Salt Lake City, Utah, 84108, USA