Umeå universitet	Diarie FS 2.1.2-889-25
Utvärdering Bästa förhållandet mellan pris och kvalitet Helt anbud	Namn Spectroscopic ellipsometer

Detta dokument är en kopia på upphandlingens elektroniska utvärderingsformulär.
Utvärderingsformuläret ska besvaras elektroniskt genom att du klickar på knappen Lämna anbud som du finner till vänster i annonsen eller inbjudan på www.e-avrop.com.

Att lämna anbud

När du lämnar pris ska det ske för (1) enhet av angiven sort.
Totalpris beräknas automatiskt som pris gånger antal.
Pris anges endast med siffror utan mellanslag eller valuta.

Utvärderingsmetoden bygger på monetär utvärdering med prissatt kvalitet. Ert anbud resulterar i ett jämförelsetal. Hur mycket jämförelsetalet påverkas vid olika utvärderingar står beskrivet för varje utvärdering i detta dokument. Anbudet med lägst jämförelsetal är bäst.

Introduktion

BACKGROUND
Thin films, with thicknesses ranging from sub-nanometer to several microns, are fundamental in many technological applications, including coatings, light-emitting devices, biosensors, biofilms, catalyzers, plasmonic structures, and batteries. The accurate measurement of optical properties such as refractive index, absorption, permittivity, and thickness is crucial for understanding light-matter interactions and for designing new and improved applications. Spectroscopic ellipsometry is a non-invasive, non-destructive, and non-contact optical technique ideal for these measurements, offering high accuracy over a broad spectral range.
Umeå University requires an advanced spectroscopic ellipsometer to meet the measurement needs of several strong research groups and to enhance the capabilities of the open-access research infrastructure NanoLab. Currently, a corresponding piece of equipment with the necessary advanced capabilities is missing at Umeå University. This new equipment will significantly improve the quality of ongoing and future research across materials science, physics, chemistry, and biology.

GENERAL INFORMATION
We are requesting tenders for a complete spectroscopic ellipsometer system. The system will be used to accurately quantifying key optical properties of thin films and bulk materials. The system will be used by a wide range of users with diverse research interests, including organic photonics and electronics, ultrafast nanoscience, biophysics and biophotonics, applied optics, membrane technology, nanomaterials for renewable energies, nanostructured functional materials, and microcrystal electron diffraction.

1.0 Spectroscopic ellipsometer - List of demands

1.0.1 Krav

The system must be complete and include the light source, measurement electronics, computer, and software needed to perform spectroscopic ellipsometry measurements. The software must be user-friendly and allow for both data acquisition and analysis.

1.0.2 Krav
The system must be capable of measuring the change in polarization of a probing light beam upon reflection from (or transmission through) a material, quantifying this change in terms of the amplitude ratio (Ψ) and phase difference (Δ).

1.0.3 Krav
The system must be capable of determining optical properties of thin films and bulk materials, including refractive index (n) and extinction coefficient (k) as a function of wavelength.

1.0.4 Krav
The system must have a spectral range of at least 250 nm to 1800 nm to cover a wide range of materials and applications. The spectral resolution must be < 5 nm.

1.0.5 Krav
The system must be capable of measuring at least 12 Mueller matrix elements (of all 16 elements) to fully characterize complex samples, including non-uniform, patterned, or anisotropic structures. Specify details.

1.0.6 Krav
The system must be capable of variable angle spectroscopic ellipsometry (VASE) measurements. The angle of incidence must be computer-controlled automated, and its range must be at least 45° to 90° with an angle repeatability of less than 0.05°.

1.0.7 Krav
The system must be capable of measuring on samples with thicknesses ranging from sub-nanometer to at least 5 µm.

Information about the thickness resolution and precision must be provided.

1.0.8 Krav
The system must be able to perform fast spectroscopic measurements (< 5 min per sample), preferably measuring all the wavelengths at once (e.g., using a CCD). Specify times and example in tender.

1.0.9 Krav
The collected data must be exportable as ASCII files.

1.0.10 Krav
The system must include software for data analysis and modelling to extract physical parameters of interest from the measured ellipsometric data.

1.0.11 Krav
The system must allow for the extraction of additional film properties such as material composition, optical anisotropy, degree of crystallinity, and roughness.

1.0.12 Krav
The system must allow local users to perform general system maintenance without requiring a qualified technician.

1.0.13 Krav
The system must be compatible with the standards of the Swedish power system (single phase, 240 VAC, 50 Hz).

1.0.14 Krav
The system must be delivered and installed at Umeå University within ten (10) months after placed order.

State your delivery time.

1.0.15 Krav
REFERENCE
The tenderer must provide two (2) reference (academic) who has purchased the tendered system, and who is capable and willing to verify the compliance with requirements. All of the must requirements in this procurement must be met.

1.0.16 Krav
The offer must include on-site training immediately after finished installation to the equipment manager. The extent must be adapted so that the user can fully operate the equipment after finished training.

1.0.17 Krav
Spare parts must be available for minimum five (5) years after system installation.

1.0.18 Krav
General information, written brochures, presentations, manuals, pictures etc must be included and available at the time for installation

1.0.19 Krav
Information on the typical measurement time for a full spectral measurement must be provided.

1.0.20 Krav
Details regarding the design, manufacturing, and support locations must be provided.

1.0.21 Krav
The system must have a minimum warranty time of two (2) years.

1.0.22 Bedömning
The system should have a spectral range of at least 210 nm to 2500 nm.
Definition
Vid noll poäng uppräknas jämförelsetalet med 15% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	Not possible	15,00
1	Possible	0,00

1.0.23 Bedömning

The software for data analysis and modelling license should allow for its installation and operation on at least five different computers.

Definition

Vid noll poäng uppräknas jämförelsetalet med 5% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	Does not allow	5,00
1	Does allow for at least five	2,50
2	Unlimited licences	0,00

1.0.24 Bedömning

Software should have unlimited upgrades for 10 years and be free of charge.

Definition

Vid noll poäng uppräknas jämförelsetalet med 5% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	Limited	5,00
1	Unlimited	0,00

1.0.25 Bedömning

The system should include a mounting rack or adequate table, preferably with wheels for ease of mobility.

Definition

Vid noll poäng uppräknas jämförelsetalet med 5% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	Not included	5,00
1	Included	0,00

1.0.26 Bedömning

The system should be modular and ready to be expanded with additional modules for upgrading the system. It should be also possible to perform these upgrades by the costumer or under the (remote) guidance of an engineer from the supplier. Examples of modules of interest are:

a.The system should be possible to expand to include a computer-automated sample translation stage. Specify option(s) and price in tender.

b.The system should be possible to expand to include a temperature stage, which can control the sample temperature under ambient conditions between -20°C to 500°C. Specify with price as optional in tender.

c.The system should allow for addition of an environmental control chamber (e.g., vacuum or inert gas) in order to perform sample characterization under controlled atmosphere. Specify with price as optional in tender.

d.The system should be possible to expand to include an electrochemical liquid cell. Specify option(s) and price in tender.

e.Optional focusing optics should be available to reduce the measurement beam diameter to <150 µm or less for measurements on small areas. Specify price as optional in tender.

f.An optional camera should be available for visualization of the measurement area. Specify price as optional in tender.

Definition

Vid noll poäng uppräknas jämförelsetalet med 15% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	Not possible to expand additional modules	15,00
1	One (1) of the modules are possible to add	12,00
2	Two (2) of the modules are possible to add	9,00
3	Three (3) of the modules are possible to add	6,00
4	Four (4) of the modules are possible to add	3,00
5	All of the mentioned modules are possible to add	0,00

1.0.27 Bedömning

Warranty time should be as long and as extensive as possible. Specify time in tender.

Definition

Vid noll poäng uppräknas jämförelsetalet med 5% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	2 year warranty	5,00
1	3 or more years of warranty	0,00

1.0.28 Bedömning

Describe service organization, contact routes, normal lead times, etc.. The tenderer should describe their applications support, including training opportunities and ongoing support for data analysis.

Definition

Vid noll poäng uppräknas jämförelsetalet med 5% av anbudspriset. Full poäng ger ingen procentuell uppräkning.

Poäng	Beskrivning	Påslag %
0	Service organization is described in a way that lacks valuable information	5,00
1	Service organization is described in a way that meets basic expectations	2,50
2	Service organization is described in a that completely meets expectations	0,00

1.1 Prisfråga

State your price for the system in accordance to above demands.

Omfattning

Pris ska anges för en (1) st. Maxpris har satts till 2 700 000,00 SEK/st och kan inte överstigas. Pris är obligatorisk information för denna post.