



COOPERATION OFFER

GENERAL DESCRIPTION

Title: Automatic characterization of films and coatings on large substrates

Summary

A Greek SME active in the design and manufacturing of advanced optical instrumentation offers a compact bench-top tool suitable for automatic characterization of films and coatings on large substrates. The system is capable to perform accurate reflectance measurements in any regime within the 350-1100nm spectral range. Industrial partners are sought for a commercial agreement with technical assistance.

Description

The Greek SME is a spin-off of a famous research centre that focuses on the design and manufacturing of optical metrology tools for the characterization of thin and thick films, based on a methodology developed in-house. It provides a wide range of turn-key optoelectronic characterization tools for the semiconductors, organic electronics, PV, materials, plastics & polymers, chemicals, paints & coatings, optics and the glass industry.

The system is a compact bench-top tool suitable for the automatic characterization of films and coatings at large substrates. The system is capable to perform accurate reflectance measurements in any regime within the 350-1100nm spectral range. It is the ideal tool for the fast and accurate mapping of films in terms of thickness, refractive index, uniformity, color etc.

Wafers of any diameter (2inch-300mm) can be accommodated on the vacuum chuck. Based on its robust & unique optical and mechanical design, the tool scans the samples under test by rotating the stage and by moving linearly the optical head on top (polar scanning). Simulated X-Y scanning is also available. By this way, accurate reflectance data with high repeatability are recorded in a very short time making it the ideal tool for the at-line and on-line characterization of wafers or other substrates (e.g. PV panels) at processing facilities. Typical scanning of an 8" Si wafer at 600 points take no more that 3min. The tool is also capable to be adapted for cassette operation in cluster tools for the real-time evaluation of wafers after certain processing steps.

The tool is controlled by the software developed in-house by the SME based on exact algorithms also owned by the company for data acquisition, film thickness and optical constants calculations. A database with more than 100 widely used materials is included and can easily be expanded by the user. The entire system (hardware – software) is shipped ready for measurements and it can be easily used by anyone with basic computer skills without any deep knowledge of optics. The only additional part needed is a computer with one free USB port running Windows XP/Vista/7/8 32 or 64-bit. There is also the option for touch-panel PC for use in dedicated industrial sites.

Technical Specifications:

Sample size	2in-300mm wafers ¹
Wavelength	range 200-1100nm*
Precision	0.2nm
Accuracy	better than 0.5 %
Spot size	0.5mm



Light Source	Scanned Area 10cm X 10cm (max.)
Sample size	Any size <6inch diameter**
Computer requirements	PC with Windows XP/Vista/7 32/64bit and a USB port available
Power requirements	110V/230V AC
Dimensions (WxLxH)	36cm x 40cm x 18cm*
Weight	27Kg

The SME is looking for industrial partners from the semiconductor, organic electronics, PV, materials, plastics & polymers, chemicals, paints & coatings, optics and the glass industry, for a commercial agreement with technical assistance.

Advantages and Innovations

- Suitable for large substrates in a variety of apps
- Fast and accurate mapping of films in terms of thickness, and optical properties at large Si wafers
- Suitable for processing quality evaluation
- Low cost solution in comparison with competition
- Modular software and capable for fast computations due to the state of the art algorithms developed in-house by the SME
- Reliability, versatility and accuracy of measurements
- Easily used by anyone with basic computer skills without any deep knowledge of optics

Current Stage of Development*

<input type="checkbox"/> Under development /laboratory tested	<input type="checkbox"/> Field tested / evaluated
<input type="checkbox"/> Available for demonstration	<input type="checkbox"/> Prototype available for demonstration
<input checked="" type="checkbox"/> Already on the market	<input type="checkbox"/> Concept stage

Comments Regarding Stage of Development:

Intellectual Property Rights Status*:

<input type="checkbox"/> Patent(s) applied for but not yet granted	<input type="checkbox"/> Secret know-how
<input checked="" type="checkbox"/> Granted patents	<input type="checkbox"/> Exclusive rights
<input type="checkbox"/> Copyright	<input type="checkbox"/> Trade Marks
<input type="checkbox"/> Design rights	<input type="checkbox"/> Others (registered design, plant variety, etc.)

Comments Regarding IPR Status: (e.g. countries for which protection has been granted or applied for)

Preferred Countries for Dissemination:

DETAILS OF YOUR OWN ORGANISATION/COMPANY

Type* Industry R&D Institution University Private Inventor

Other: please specify

Comments:



Organisation/Company Size* *(please tick one box)* < 10 employees 11-50 employees
 51-250 employees 251-500 employees > 500 employees

Year Established:

Turnover (only for business profiles): < 1 mio 1 – 10 mio
 10 – 20 mio 20 – 50 mio 50 - 100 mio

Already Engaged in Trans-National Cooperation Yes No

Experience Comments:

Certification Standards:

Languages Spoken:

COLLABORATION DETAILS

Type of partnership considered:

Technology Offers

- Commercial Agreement with technical assistance (an agreement arranging the acquisition of a product/technology paired with the provision of a number of services in support of a transfer of technology)
- Joint Venture Agreement
- License Agreement
- Technical co-operation agreement
- Research co-operation agreement

Business Offers

- Distribution services agreement
- Acquisition agreement
- Franchise agency agreement
- Manufacturing agreement
- Outsourcing agreement
- Subcontracting
- Financial agreement
- Services Agreement

Type and Role of Partner Sought*:

The company is looking for industrial partners from the semiconductors, organic electronics, PV, materials, plastics & polymers,



chemicals, paints & coatings, optics and the glass industry for a commercial agreement with technical assistance.

Size and Type of Partner Sought (e.g. industry, research):

Additional information (pictures)

CONTACT

Please contact the RespiceSME coordinator Samantha Michaux for the contact data of the company.

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