

COMPANY PROFILE FORM	
Name	ThetaMetrisis
Short profile	<p>ThetaMetrisis is a privately held company located in Athens, Greece. Is a spin-off company from Institute of Microelectronics, National Centre Scientific Research 'Demokritos'. ThetaMetrisis was established in December 2008 and is a <i>system oriented</i> and <i>application driven company</i> aiming at the <i>design, development and commercialization of state-of-the-art turn-key solutions</i> in areas related to the ultra thin and thin films/layers for diverse applications. The areas sought so far include but not limited to: microelectronics, data storage, polymers, and bio-chemical sensors.</p> <p>ThetaMetrisis products are cost-affordable integrated state of the art optical metrology tools without any compromise in accuracy and versatility, thanks to the flexible tool design and parametrized software. Our core technology is based on White Light Reflectance Spectroscopy and offers real-time accurate and simultaneous evaluation of film thickness and refractive index (n, k) of stacked ultrathin, thin and thick films/layers.</p> <p>ThetaMetrisis also delivers unique analytical services for film characterization such as in-situ film swelling in the presence of controlled vapors, film thickness changes due to thermal cycling, kinetics of binding of biomolecules etc.</p> <p>ThetaMetrisis short-term target, in the bio-related applications is the realization of a bioanalytical tool for the real-time label-free detection of proteins and DNA.</p>
Research and Development Activity:	<ol style="list-style-type: none"> 1. ThetaMetrisis's R&D focuses in the further improvement of the already designed tools and their application in broader areas. The main accomplishments so far are a) The realization of the basic methodology, White Light Reflectance Spectroscopy, and its evaluation in diverse applications and b) the design and implementation of instruments for characterization of ultra thin and thin layers in steady state as well as in dynamic mode for application in diverse areas including biomolecular interactions. 2. In collaboration with research teams from NCSR "Demokritos", we are working on the extension of our characterization tools in bio-related areas and in particular on the measurement and characterization of the layers grown during controlled bioreactions with model systems. 3. Our short-term R&D plans include the development of a tool (including microfluidics) and the methodology for the real-time monitoring of bio-reactions using non-invasive optical methodologies. 4. Our mid-term R&D plans include the automation of our tools towards the pseudo-parallel monitoring of the phenomena occurring in multiple points over an area. This way it will be possible to study several points in one sample or various samples decreasing the time needed for analysis.
Partner search with activity in the following research areas:	<p>ThetaMetrisis is interested in developing research and business collaborations with partners worldwide sharing complementary interests and with experience in sensor technologies and bio-kinetic characterization, in the areas of pharmaceuticals and genetics.</p> <p>In particular we are interested in collaborations with organizations</p> <ol style="list-style-type: none"> 1 with expertise in in-situ monitoring of biomolecular interactions with conventional state of the art protocols 2 with expertise in automation protocols and software 3 with expertise in nanoengineering of surfaces and ultra thin films for biosensing applications.
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