

Neuchâtel (Switzerland), March 13, 2003

## PRESS RELEASE

### **Photovoltaics: Major Industrial venture announced in Neuchâtel**

**Lifting photovoltaic solar energy to the mass production level: This and no less is the goal of the new partnership announced today in Neuchâtel, Switzerland, in the field of solar cell technology, by the Institute of Microtechnology (IMT) of the University of Neuchâtel and the firm Unaxis AG. A new Industrial laboratory, Unaxis Solar, will be created: its aim is the development of a production technology for large-scale production of photovoltaic solar modules, in large dimensions and for a variety of applications, while achieving the best possible cost-performance ratio. It represents a copybook example of mutually beneficial collaboration between University research and Industrial Application. So far, financial support has been mainly provided by the Swiss Federal Office of Energy (SFOE) under its research programme for renewable energies.**

For 18 years, a team of researchers and engineers has been working at the Institute of Microtechnology (IMT) with the aim of reducing production costs for solar photovoltaic modules. A promising approach has been selected - thin-film silicon deposited by low temperature plasma. A series of technological break-throughs has been made:

- increase in production rate using VHF plasma
- introduction of the "micromorph" tandem cell to make better use of the solar spectrum
- transparent zinc oxide contacts improved with regard to optical properties and simplicity of production
- a new solar cell fabrication process using just one plasma chamber instead of three different chambers.

In the process of this research work, the Centre for Research on Plasma Physics (CRPP) of EPFL has provided very valuable scientific support, thanks to its in-depth understanding of plasma processes and plasma-assisted fabrication techniques.

In order to make this new high-performance technology available to photovoltaic module manufacturers throughout the world, a collaboration agreement is now being signed between IMT and Unaxis AG.

Unaxis has more than a decade's experience in amorphous silicon manufacturing technology, as used for the production of flat panel displays. The aim of the new venture is to combine the advanced solar cell know-how developed at IMT with Unaxis' mature production tools, and, thus, provide future cost-effective thin film solar cell manufacturing equipment. In this way, Unaxis intends to become the leading supplier of advanced production equipment and processes for silicon-based thin-film solar cell modules.

The Swiss Federal Office of Energy has, through its Energy Research programme, provided essential financial support to bring the development at IMT to the present stage and to enable, thus, together with the Swiss Federal Commission for Technology and Innovation, such a promising collaboration between University Research and Industrial Applications. The SFOE warmly welcomes the partnership herewith set-up as well as the perspectives it opens for future sustainable development.

### **An important contribution to the region**

The State Council and the Economic Development office of the Canton of Neuchâtel (DEN) are pleased to announce the creation of a new industrial laboratory "Unaxis Solar" in Neuchâtel in early spring 2003. "Unaxis Solar" is an excellent example of partnering between the area's research and industrial sectors and it consistent with the region's principles for sustainable development.

The creation of this new laboratory without question is a significant reinforcement of the research and innovation capabilities of the Canton of Neuchâtel and will have a world-wide impact as a result of Unaxis' global production and sales network.

For more information, please contact:

IMT – Institute of microtechnology  
Rue A.-L. Breguet 2  
CH-2000 Neuchâtel  
Arvind Shah  
Phone: +41-32 718 33 30  
[arvind.shah@unine.ch](mailto:arvind.shah@unine.ch)

Unaxis Balzers AG  
Displays Division  
FL-9496 Balzers  
Christine Algate  
Phone: +423 388 50 05  
[christine.algate@unaxis.com](mailto:christine.algate@unaxis.com)

Swiss Federal Office of Energy SFOE  
Worblentalstrasse 32  
CH-3063 Ittigen  
Stefan Nowak  
Phone: +41-26 494 00 30  
Mobile +41-79 229 32 56  
[stefan.nowak.net@bluewin.ch](mailto:stefan.nowak.net@bluewin.ch)

Economic Development  
Canton of Neuchâtel (DEN)  
Collégiale 3  
CH-2001 Neuchâtel  
Francis Sermet  
Phone: +41-32 889 68 23  
[francis.sermet@ne.ch](mailto:francis.sermet@ne.ch)

Photos: [www-micromorph.unine.ch/event.htm](http://www-micromorph.unine.ch/event.htm)