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## **The NA61 Experiment at CERN Orders Additional MAPD Solid-State Photo Detectors**

**Singapore, December 14, 2011 - Zecotek Photonics Inc. (TSX-V: ZMS; Frankfurt: W1I)**, a developer of leading-edge photonics technologies for medical, industrial and scientific markets, today announced that the NA61 Experiment at the European Organization for Nuclear Research (CERN), Switzerland, has ordered additional third generation Micro-pixel Avalanche Photo Diodes (MAPD-3A). The NA61 Experiment recently completed a 40 day heavy ion experiment with 320 channels of MAPD-3A readout.

"This is the first time we have used the Projectile Spectator Detector or Hadron Calorimeter with 320 channels of readout and Zecotek's MAPD solid-state photo detectors performed beyond expectations," said Dr. Fedor Guber, representative of NA61/SPS Heavy Ion and Neutrino Experiment. "The conditions within the calorimeter are extreme and during the 40 day heavy ion run not one MAPD malfunctioned. They all worked continuously throughout the experiment – a very impressive feat. We will be using the MAPDs for future NA61 experiments including CERN's Hadron Calorimeter with 440 MAPD readout channels."

"CERN is one of the world's most important centres for scientific research and we are committed to providing superior technological solutions for all of their experiments," said Dr. A.F. Zerrouk, Chairman, President, and CEO of Zecotek. "Our MAPD solid-state photo detector is compact and insensitive to radiation and magnetic fields and is designed to replace the earlier photo-detection technologies used by the NA61 Experiment and other high energy physics experiments. We will continue to work with Dr. Guber and his colleagues to optimize the MAPD parameters to improve the overall data from the large calorimeter."

NA61 is a large acceptance hadron spectrometer with capabilities for momentum, charge and mass measurements. The experimental facility consists of Time Projection Chambers, Time of Flight and Projectile Spectator Detectors. The NA61 Experiment measures the production of hadrons (a class of subatomic particles) in heavy ion collisions and to search for the critical point of strongly interacting matter. A new measuring device, the Projectile Spectator Detector calorimeter (PSD), was used to measure the number of the non-interacting particles in the collisions, on an event-by-event basis. The PSD allows scientists to determine the number of particles participating in the reaction, made possible through Zecotek's MAPD-3N's unique high pixel density of 15,000/mm<sup>2</sup>. The MAPD-3A provides the linear response and energy resolution, amongst other characteristics, required for these ultra-sensitive experiments.

### **About CERN**

CERN, the European Organization for Nuclear Research, is one of the world's largest and most respected centres for scientific research. Its business is fundamental physics, finding out what the Universe is made of and how it works. At CERN, the world's largest and most complex scientific instruments are used to study the basic constituents of matter – the fundamental particles. By studying what happens when these particles collide, physicists learn about the laws of Nature. CERN is the home of the Large Hadron Collider (LHC). LHC



experiments will address questions such as what gives matter its mass, what the invisible 96% of the Universe is made of, why nature prefers matter to antimatter and how matter evolved from the first instants of the Universe's existence. The instruments used at CERN are particle accelerators and detectors. Accelerators boost beams of particles to high energies before they are made to collide with each other or with stationary targets. Detectors observe and record the results of these collisions. Founded in 1954, the CERN Laboratory sits astride the Franco-Swiss border near Geneva. It was one of Europe's first joint ventures and now has 20 Member States. For more information about CMS please visit <http://cms.web.cern.ch/cms/Detector/WhatCMS/index.html>.

### **About Zecotek**

Zecotek Photonics Inc (TSX-V: ZMS; Frankfurt: W1I) is a photonics technology company developing high-performance crystals, photo detectors, medical lasers, optical imaging and 3D display technologies for commercial applications in the medical diagnostics and high-tech industry. Founded in 2003, the company has three distinct operating divisions: medical imaging, medical lasers and 3D display and labs located in Canada, Singapore and Russia. Zecotek commercializes its novel, patented and patent-pending bio-photonic technologies directly and through strategic alliances and joint ventures with multinational OEMs, distributors and other industry leaders. For more information, please visit [www.zecotek.com](http://www.zecotek.com).

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### **For Additional Information Please Contact:**

Zecotek Photonics Inc.  
Michael Minder  
T: (604) 783-8291  
[ir@zecotek.com](mailto:ir@zecotek.com)

CHF Investor Relations  
Julia Clark, Account Manager  
T: (416) 868-1079 x236  
[julia@chfir.com](mailto:julia@chfir.com)

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