

Project Name : **Apex Biosystem Ltd.**
Team Members : **Daisy Chan Wing Sze 陳詠詩 (工商管理學士綜合課程)**
Ivan Yau Ka Wai 丘家威 (工商管理學士綜合課程)
Scott Yuan Wu 袁武 (電子工程學博士生)

Executive Summary:

Apex Biosystem Ltd. will produce and distribute laboratory testing equipment using phase surface plasmon resonance (pSPR) technology.

Current SPR system has become the core technology of testing bimolecular substances. The application of relevant systems has extended to basic biology, biochemistry, healthcare, R&D of pharmaceutical and food quality control etc. However, current SPR sensor is low in sensitivity and very expensive therefore resulting in an excessive demand than supply in the market. Apex improves on current system and applies waveguide coupled sensorchip technology to read the phase information from SPR to triple the sensitivity. It will help researchers and doctors achieve faster and more accurate results in testing a wide range of viruses including Bird Flu and diagnosis. Apex avoids using other registered and patented products to save cost. It marks the selling price at USD\$30,000 which is around 80% lower than USD\$130,000, the selling price of major competitor.

The innovative breakthrough is developed by Professor Aaron Ho Pui Ho of CUHK's Department of Electronic Engineering. CUHK's Technology and Licensing Office is currently applying two patents at the US Patent and Trademarks Office. Apex plans to launch the product in Hong Kong through direct sales and will enhance brand awareness by releasing research reports and organizing seminars. Strategic partners will be identified for further expansion to overseas markets. Apex will be managed by a team of professionals consisting of university professors, research students and doctors. It will provide high quality products and high return by-products. They expect a turnover of US \$8 million in the 5th year and are now looking for an investment of US \$1 million for marketing and prototype production.

Apex Biosystem Ltd. 利用表面等離子共振技術，生產及提供實驗室專用的測試儀器。

現時的表面等離子共振生物感測器已經成為檢測生物分子之間的主流技術，其相關儀器設備更被廣泛地應用到基礎生物、生化、醫療保健、藥物研發，以及食品質量監測等領域。然而，由於現時市場上的生物感測器靈敏度低及價格高昂，因此出現求多於供的情況。Apex 的生物感測器透過改良現有系統，並採用液晶調製器調製光線相位從而讀取 SPR 導致的相位(phase)資訊，靈敏度較現有的設備增加三倍，將可協助研究人員及醫生更快速準確地進行病毒(如禽流感)的測試及診斷各種病症。此外，Apex 生物感測器避免使用其他已註冊公司的用品以節省成本，現暫定售價為三萬美元，相對現時市場主要競爭產品為十三萬美元，售價大幅減少八成。

這項嶄新的科技是由中大電子工程學系何浩培教授研發。中大科技及專利許可事務處現正為這項嶄新技術向美國國家專利商標局申請兩項專利。Apex 計劃採用直接銷售的方式，在香港先行分銷，並透過發表研究報告及參與展覽增加品牌的知名度，其後再尋求策略伙伴進軍海外市場。Apex 由專業的管理人員包括大學教授、研究生及醫生組成管理層，並會提供高品質產品及高盈利副產品。Apex 預期於第五年賺取約八百萬美元，並於首階段集資一百萬美元作為推廣產品、市場發展及生產標準樣版的成本等。