

OVERVIEW

Initially a result of inventory correction but exacerbated by soft demand due to the slowing world economy, production run rates of many semiconductor factories were slashed to fractions of their past levels last year. However, after a long period of month-to-month decline in output, the semiconductor industry passed its trough and began a gradual recovery starting in the fourth quarter. Analysts estimated there was a 20% decline in IC unit volume and around 32% drop in revenue in 2001 - the most severe slowdown in the entire history of the semiconductor industry. Capital expenditure of many companies was cut, resulting in push-outs or cancellations of outstanding orders. Purchases of IC assembly and packaging equipment for capacity expansion vanished.

Even in these serious circumstances, ASM remained profitable, largely due to the solid business foundation laid over the years by our superlative products in diversified territorial and application markets. Still, Group turnover dropped to US\$200 million, a reduction of 60.9% as compared with the previous year. With eroded order backlog, turnover during the second half of the year was only 57.3% as compared with the first half. While every sector of the electronics food chain was badly hit, due to the strong domestic economy in the first half of the year our sales to the China market declined much less than in other countries. In addition, with our equipment strengths in servicing the optoelectronics market, we made record sales into Japan, better than all previous years. Riding our strong market momentum, ASM clearly has been gaining market share in both good (years 1999, 2000) and bad (2001) years.

The operating leverage effect of the reduced turnover inevitably affected gross and net margins. Even though net profit was trimmed to HK\$231 million, once again we outperformed our competitors in the rate of revenue change and distinguished ourselves as the only profitable company during this slowdown. The combined effect of our rising equity base and smaller profit resulted in return on capital employed and on sales ratios of 13.5% and 14.6% respectively. Together with a 38% rise in our share price and hefty dividends during the year, ASM represents a good investment for our shareholders during this poor economic environment.

ASM is committed to long term growth and success. While our competitors were forced to make expedient decisions to produce short-term results, we did not cut back in marketing and R&D. Instead, we used this slow period to aggressively launch renewed market assaults. Many new products and new models equipped with the more powerful motion controllers and linear motors were introduced to the market. New die, wire and flip chip bonders were sent for various field evaluations, and obtained very favourable responses from the customers. Our technical support for customers' packaging development efforts also yielded good returns. This strategy enables ASM to foster strategic partnerships with our customers and open some doors for our leadframes and other assembly equipment.

總覽

半導體工業經歷了存貨調整時期，加上全球經濟放緩，市場需求疲弱，半導體業可謂雪上加霜，不少半導體廠的生產週期僅及去年的一小部分。然而，每月產量長期下跌過後，半導體業終於走出谷底，並於去年第四季逐漸復甦。分析員估計，在二零零一年，集成電路(IC)產量的跌幅為百分之二十，收益下降約百分之三十二，跌幅為半導體業歷來最嚴重的一次。許多公司不得不削減資本開支，被逼推卻或取消尚未完成的訂單，而客戶為擴充產量而購買集成電路組裝及包裝設備的境況亦不復見。

即使在如此艱困的營商環境下，ASM依然錄得盈利，實有賴ASM卓越的產品多年來在不同區域及應用市場多元化發展，奠定了穩固的業務基礎。然而，本集團營業額下降至二億美元，較去年下跌百分之六十點九。鑑於積存訂單減少，下半年營業額僅及上半年的百分之五十七點三。雖然整個電子行業各個範疇均飽受市場衝擊，但國內經濟在上半年維持強勁，因此相對其他國家而言，本集團對國內市場的銷售額跌幅亦較為輕微。此外，憑藉我們在光電元件(optoelectronics)設備市場的優勢，本集團對日本的銷售額亦創下了歷年來的新高。ASM乘著強勁的市場發展動力，不論身處順境(一九九九年及二零零零年)或逆境(二零零一年)，均一直穩步增加市場佔有率。

營業額下跌對業務造成槓桿效應，難免使毛利率及純利率受影響。儘管純利下降至港幣二億三千一百萬元，但從收益變動率看來，本集團一再證明本身表現確實較競爭對手優勝，成為在此行業放緩期唯一一家仍然獲得利潤的公司。在本集團股本基礎增加及利潤縮減的情況下，資金回報及銷售回報比率分別達百分之十三點五及百分之十四點六，加上股價上升百分之三十八及年內股息豐厚，足證ASM在經濟不景的環境下實為投資上佳之選。

ASM放眼於長遠發展，銳意取得成功。正當競爭對手紛紛採取權宜之計催谷短期成效時，我們卻絕無削減市場推廣及研究發展的資源，相反更乘著市場放緩之際積極重整實力，展開連串市場攻勢，推出各種嶄新的產品及型號，為新產品配備功能更強大的移動操控器及線性馬達，並且先後運送新管芯焊接機、焊線機及覆晶焊接機進行實地測試，測試結果備受客戶歡迎。本集團專為客戶而設的包裝發展技術支援亦取得了可觀回報，不但能夠促進ASM與客戶的策略夥伴關係，更可為ASM旗下的引線框架及其他裝嵌設備開闢銷售渠道。

OVERVIEW (CONTINUED)

While the first few months of this year may prove challenging times, due to a low order backlog and lack of customer capacity expansion until their overall loading further improves, we have seen rising demands for fine pitch wire bonders to meet the die shrink requirements. This capability upgrade, as well as the need to invest in new package types like QFN, CSP and flip chip, will lead the assembly equipment industry's gradual recovery. We believe ASM is well positioned with its products and integrated customer solutions to take full advantage of the market upturn.

MARKET AND PRODUCT DEVELOPMENT**Equipment Division**

In spite of the extremely harsh business environment, ASM achieved a turnover of US\$159.2 million in 2001, largely thanks to our diversified products addressing different application markets. With this turnover, ASM still ranks second among the world's semiconductor assembly equipment manufacturers, although it represents a reduction of 63.5% compared to the previous year. Nevertheless, our sales were only 10% below that of our leading competitor, and we actually surpassed them during the first quarter. With our leading competitors reporting a revenue drop exceeding 70% in the calendar year 2001, once again ASM outperformed our peers and has clearly been gaining market share in the last few years.

Equipment sales represent 80% of the Group's turnover. Due to the soft IC packaging market, especially the subcon segment, our weighting towards equipment addressing the optoelectronics, discretes and chip-on-board sectors was heavier than in the previous year.

During this slowdown, the AB339 Eagle wire bonder led our market offensive and successfully captured four new customers who did extensive field evaluations to verify our bonder's superior fine pitch process capabilities, throughput and stability. Other demonstrations are currently on-going and several have already generated favourable responses from potential customers. We expect our wire bonder market share will be further enlarged when the market comes back for more technology and capacity buys.

Apart from supporting customers with process enhancements, we are continuing to push forward with our factory automation solution. We recently shipped our new generation IDEALine, featuring Twin Eagle and some advanced concepts, to a customer for beta site testing. Concurrently, we are building a complete line for another customer, with ASM supplying all the critical process modules such as die attach, snap cure, wire bond, encapsulation, trim form, test handling, singulation, inspection, tape and reel. In addition to absolutely minimum work-in-progress (WIP), this line can go from wafer to fully tested and packaged IC in less than one hour manufacturing cycle time, a many-fold reduction as compared with the traditional approach.

總覽(續)

由於積存訂單數量偏低，加上客戶整體業務狀況仍有待改善，暫時缺乏產量拓展活動，故此本年首數個月實屬艱難時期。儘管如此，為配合管芯收縮的需要，我們的微距焊線機需求卻反見上升，這提升產能的需求，再加上需要投資於QFN、CSP、覆晶等新包裝種類的設備，將可帶領整個裝嵌行業逐步復甦。我們堅信，ASM無論在產品和綜合客戶方案上都處於有利位置，定可充分掌握市場轉好的契機，進一步拓展業務。

市場及產品發展**設備系列**

雖然營商環境十分惡劣，ASM於二零零一年仍取得營業額一億五千九百二十萬美元，主要由於本集團產品組合多元化，故能滿足不同的應用市場。儘管營業額較去年減少百分之六十三點五，但憑著此營業額，ASM依然名列全球第二大半導體組裝設備生產商。然而，本集團的銷售額較主要競爭對手低百分之十，但事實上本集團第一季的銷售額曾超越對手。二零零一年，本集團主要競爭對手的收益下跌逾百分之七十，ASM的表現再次在同業中脫穎而出，過往數年的市場佔有率亦一直顯著增加。

設備銷售額佔本集團營業額百分之八十。由於集成電路包裝市場疲弱，尤其是承辦裝嵌市場(subcon)，本集團較去年更著重生產光電元件(optoelectronics)、元件(discretes)和軟包裝(chip-on-board)方面的設備。

在市場放緩期間，本集團應用AB339 Eagle焊線機帶領進軍市場，成功爭取了四位新客戶。四位新客戶均進行一系列實地評估，證明本集團焊線機在處理精確微距工序方面具備卓越的性能、產量及穩定性。本集團現正進行其他示範推廣活動，當中不少已得到客戶正面回應。本集團預期，當市場對科技及生產力的購買力回升時，本集團在焊線機市場的佔有率將會進一步擴大。

除支援客戶改良工序外，本集團亦繼續推動生產自動化解決方案。本集團近期向一位客戶付運新一代IDEALine進行實地測試。新一代IDEALine建基於Twin Eagle，並採用了多個先進概念，是本集團的最新產品。與此同時，本集團正為另一位客戶建立一套完備的生產線，由ASM提供所有關鍵工序的組件，例如晶片焊接(die attach)、即時凝固器(snap cure)、焊線、塑封、切筋成型(trim form)、測試處理、分離、檢查、膠帶固定及卷筒等。除了把在製品減至最少外，這套生產線亦可在一小時內完成生產週期，把晶片製成經全面測試及封裝的集成電路，與傳統生產方法比較，大大減省了生產時間及成本。

Equipment Division (continued)

Many exciting new products were launched during the year. Among them, our new AD900 flip chip bonder, which addresses the growing demands of flip chip in package (FCIP) with eutectic solder process, found its high placement accuracy and throughput well received by our customers. Our unique, small footprint solder ball placement line was shipped for customer benchmarking, complementing our factory automation solution for ball array packages. As an alternative to strip testing but achieving the same high productivity and standardized handler objectives, we delivered our first multi-site test handler capable of ambient and elevated temperatures. We expect these innovative new products will start generating revenue in 2002 and strengthen ASM's product portfolio.

Leadframe Division

With the electronic industry adjusting its supply chain inventory, demand for semiconductors and consequently leadframes was low, especially during the 2nd and 3rd quarters. Our leadframe revenue dropped by 45.5% last year to US\$40.8 million, representing 20% of the Group's turnover.

As an integrated leadframe supplier having full functional capabilities, ASM is well-known for short delivery lead times and offers frame design, rapid prototyping and volume production of stamped frames with either spot silver or full palladium plating. Over the years, ASM has provided cost-effective solutions for surface-mounted IC and micro-packages with high density matrix leadframes.

Recognizing constraints in wire bonding, encapsulation and de-taping, we also offer QFN leadframes designed to optimize various assembly processes. Unique among all leadframe suppliers, this specialised knowledge permits ASM to provide strong packaging development support to our customers. Together with our superior half-etching capabilities, such value-added services have propelled ASM to leadership position in QFN leadframes. To meet upcoming volume demands, we have been installing reel to reel etching equipment and plating machines to capitalize on this market opportunity.

設備系列(續)

本集團年內推出了多項令人驚喜的產品，包括新AD900覆晶焊接機。市場對採用低共熔焊接工序(eutectic solder process)的封裝覆晶焊接機需求日益增加，這款新覆晶焊接機正可滿足市場需求，加上放置準確度高，生產量龐大，這款新產品深受客戶歡迎。本集團獨有的高精度低共熔焊珠放置生產線經已付運予客戶進行基準測試，從而補足本集團為焊珠排列包裝而制訂的生產自動化解決方案。作為整片測試的另一選擇，本集團推出首部multi-site test handler，這款產品在室溫及高溫下同樣能夠正常運作，但亦可達致與其他同型設備相同的高生產力及標準化處理目標。本集團預期，這款嶄新產品將於二零零二年開始為本集團帶來收益之餘，亦會加強ASM的產品組合。

引線框架系列

隨著電子業現正調整供應鏈的存貨量，市場對半導體的需求下降，繼而影響對引線框架的需求，情況在本年度第二及第三季尤其嚴重。引線框架的收入較去年下跌百分之四十五點五至四千零八十萬美元，佔本集團營業額百分之二十。

身為具備全面功能生產力的綜合引線框架供應商，ASM以產付週期快捷而在業內見稱，並提供局部鍍銀或全部鍍鈀沖壓框架的框架設計、快速製造原型及大量生產。過往數年，ASM亦為表面安裝集成電路及高密度矩陣引線框架微型包裝提供具成本效益的解決方案。

鑑於在引線焊接、塑封及除膜方面存在限制，本集團亦提供專為優化多個包裝工序而設計的QFN引線框架。這項獨有技術知識使ASM為客戶提供強大的組裝發展支援，此優勢絕非其他引線框架供應商可媲美。在ASM卓越的半蝕能力相輔相成之下，是項增值服務促使ASM進佔QFN引線框架的領導地位。為了滿足即將湧現的產量需求，本集團已裝設卷軸至卷軸蝕片(reel to reel etching)設備及電鍍設備，務求能充份把握市場契機。