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Developing PC-Compatible Models Moves Taiwan to the World Stage

In 1981, the world saw the production of the first business PC, IBM 5150. It was a milestone that marked the application of personal computers in the business world. IBM PC ushered in the booming industry of personal computers. Soon, Taiwan's Institute of Information Industry worked together with IBM. They made efforts to diminish the technological obstacles and get across the threshold of PC production, henceforth laying the foundation for Taiwan to become the world's giant in computer manufacturing.

The original design of IBM 5150 included the keyboard, printer, monitor, floppy disk drive, RAM (Random Access Memory) and other accessory PC products. They made Taiwan the world's No. 1 manufacturer of monitors, motherboards, keyboards, sound cards, mice, handheld scanners, display cards, and so on. Up till now, regardless of different brand names, all the computer productions have to follow the basic specifications and structures stipulated by IBM in the beginning.

IBM brought forth the world's first Chinese computer in Taiwan. While PC industry was in its golden era, IBM adopted the Japanese kanjis as word base and created a Chinese terminal that used a large keyboard. In no time it came up with the first Chinese jet ink printer. Taiwan provincial government along with some banks was among the first few to employ these IBM Chinese PC products.

In 1983, IBM introduced to the world its first Chinese computer PS-55 (Personal System 55). This computer was faced with many challenges. A resolution of 9*16 can present correct English characters on the screen, yet the Chinese characters need a resolution of 24*24 to reach that same level of correctness. Early computers were able to demonstrate Chinese characters, yet only in simplified forms. How to come up with

comprehensive characters has become the toughest challenge for Chinese computers. However, IBM has conquered the challenge and made PS-55 correctly present the Chinese characters. IBM PS-55 later became the standard mode for the industry to develop Chinese computers.

During the period of Chinese standardization, IBM sent their staff to the Institute of Information Industry in Taiwan to help develop Chinese internal codes. The "IBM 5550 Chinese Computer Development Project" involved developing Chinese input system, operating system, application software, and 13051 Chinese character codes and word shapes. They laid the foundation for the standardization and availability of our country's Chinese computers.

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For Taiwan's five major industry associations, the Institute of Information Industry has devised the Chinese BIG 5 codes, which were the follow-ups of previous internal codes. In 1984, IBM set up Institute of National Product Development in Taiwan that specifically made research on Chinese computers. For years, through cooperating with the Institute of Information Industry, IBM has transferred their research technology and successfully promoted the Chinese computer industry.

The origin of personal computer dates back to IBM. In 1983, *Multistation 5550* that functioned as PC, word processor and terminal was sold in Japan. From 1980 to 1990, IBM sold out 5550 personal computers in China, Taiwan, Japan and Korea.

In the 1980s, IBM launched a PC that combined Intel's x86 hardware structure and Microsoft's MS-DOS. It formulated PC/AT as PC specifications. The development of Intel's microprocessor and Microsoft's MS-DOS is actually the personal computer's history of development. After 1987, IBM switched to PS/2 micro channel architecture. WINTEL structure has replaced the leading role that IBM played in PC industry, and Taiwan's information industry has in turn played a pivotal role on the world stage.

Desktop computers vary from the previous large business computers. Their hardware components include the computer case, motherboard, display card, sound card, RAM, floppy disk drive, hard disk drive, CD-Rom, modem, keyboard, mouse, monitor, and so on. They bring about the division of production for Taiwan's IT industry and establish Taiwan's Acer, Synnex, MiTAC, and FIC as famous brand companies around the world. Meanwhile, users are also free to buy separate components to assemble their own computers or purchase better components to upgrade their older ones.

On the basis of desktop computers, Taiwan's IT industry is now working on laptop computers and notebooks. Through cooperation between the Industrial Technology Research Institute and Notebook Union, common molds and related components are explored. The results not only save costs for the IT industry but also expand the overseas sales, making Taiwan the world's kingdom of notebooks.

Taiwan is leading the world in the industry of desktop computers and notebooks. The development of network communication and the location of manufacturing factories show that information technology is deeply rooted in Taiwan. Because of this, for the government or the private sectors that want to promote information technology, needed hardware can be purchased at a lower cost nearby. In no time can the dream of Intelligent Taiwan also be realized.

10 發展 PC 相容機種 台灣邁向世界舞台

1981 年，全世界第一部商用個人電腦 IBM 5150 問世，寫下將個人電腦帶入商用領域的里程碑。IBM PC 採開放式架構帶動個人電腦產業發展，**資策會**與 IBM 合作 PC，讓台灣廠商降低技術障礙，跨越 PC 生產製造門檻，奠定全球電腦生產大國的基礎。

IBM 5150 的原始設計包括：鍵盤、印表機、顯示器、軟碟機與記憶體等電腦周邊的標準產品，更讓台灣日後獲得監視器、**主機板**、鍵盤、**音效卡**、滑鼠、**掌上型**掃描器、**視訊卡**等十多項「世界第一」產品。時至今日，無論何種廠牌，仍是沿用當初 IBM 所制定的基本**規格**及**架構**。

IBM 在台推出全球第一部中文電腦，在個人電腦產業蓬勃發展之際，IBM 以日文漢字為基礎，推出採大鍵盤的中文**終端機**，再推出第一台中文**噴墨式印表機**，台灣省政府是第一個採用中文系統，有些銀行也採用 IBM 中文產品。

IBM 在 1983 年推出全球第一台中文電腦 PS-55 (Personal System 55)，這台電腦面臨許多挑戰；英文字型只要 9x16 **解析度**便能呈現正確的字型，但中文需要高達 24x24 解析度。早期的電腦雖然可以呈現中文，但都是簡化字型，如何完整呈現字型，便成為中文電腦最大的挑戰。IBM 克服挑戰，讓 PS-55 正確呈現中文字型。IBM PS-55 成為業界發展中文電腦的標準。

中文化期間，IBM 派員工到資策會協助中文**內碼**開發；當時「IBM 5550 中文電腦開發計畫」包括中文輸入系統、中文作業系統、應用程式中文化及 13051 個中文字**字碼**與字形，奠定我國中文電腦標準化與普及應用基礎。

資策會為**五大公會**所開發的中文 BIG 5 碼，即是沿襲該內碼開發而成。1984 年，IBM 在台灣成立 National Product Development，專門研究中文電腦。多年來，IBM 透過與資策會的合作，**轉移**研發技術，協助中文電腦產業的提升

個人電腦的始祖是 IBM，1983 年以「Multistation 5550」在日本銷售，具 PC、**文字處理機**及終端機三合一功能。IBM 在 1980 至 1990 年於中國、台灣、日本和韓國銷售 5550 個人電腦。

1980 年代，IBM 推出以英特爾的 x86 的硬體架構及微軟 MS-DOS 作業系統的個人電腦，制定以 PC/AT 為 PC 規格。英特爾推出微處理器及微軟作業系統發展就是個人電腦的發展歷史。IBM 1987 年後改用 PS/2 **微通道架構**，WINTEL 架構全面取代 IBM 在個人電腦主導的地位，台灣資訊業者在世界舞台扮演**舉足輕重**的角色。

桌上型個人電腦與過去的大型商用電腦不同，電腦硬體零組件包括：機殼、主機板、顯示卡、音效卡、記憶體、磁碟機、硬碟機、光碟機、**數據機**、鍵盤、滑鼠、顯示器，都造就台灣資訊業者專業**分工生產**，除了造就台灣**宏碁**、**聯強**、**神通**、**大眾**等多個品牌個人電腦，電腦使用者也很容易選購電腦**零組件**組裝完整電腦，也可以升級配備，選擇便宜好用的自組電腦。

有桌上型電腦發展基礎，國內資訊業者研發**膝上型電腦**、筆記型電腦，透過工業技術研究院整合「**筆記型電腦聯盟**」，先開發**公共模具**與零組件，節省業者開發時間與成本，幫助台灣筆記型電腦廠商外銷世界各國、**百花齊放**，成為全球筆記型電腦王國。

台灣身為全球桌上型電腦、筆記型電腦,到後來的網路通訊設備研發、生產基地,根留台灣,無論政府或民間推動資訊科技應用時,可以用較低的成本,就近採購硬體,快速實現智慧台灣的夢想。