

Topic Page: [smart card](#)

Definition: **Smart card** from *Brewer's Dictionary of Modern Phrase and Fable*

A plastic card (see Plastic) with a built-in microprocessor, holding personal data or financial information and thus able to serve as an Identity card. It dates from the 1980s.

Summary Article: **smart card**

From *The Columbia Encyclopedia*

small device that resembles a credit card but contains an embedded microprocessor to store and process information. Magnetic-stripe cards, which store a very small amount of information (most typically used to identify the owner) and have no processing capability of their own, can be thought of as primitive smart cards. A true smart card contains 80 or more times as much memory, and the microprocessor allows information to be read and updated every time the card is used. *Contact cards*, which must be swiped through card readers, are less prone to misalignment and being misread but tend to wear out from the contact; *contactless cards*, which are read by using radio-frequency identification technology, can be used in mobile applications, such as collecting tolls from cards as drivers pass through toll booths without stopping.

Developed in 1973 by the Frenchman Roland Marino, the smart card was not introduced commercially until 1981, when the French state telephone system adopted it as an integral part of its phonecard network. This led to widespread use in France and then Germany, where patients have health records stored on the cards. A large-scale pilot program involving 40,000 people and 1,000 retail merchants and using smart cards as stored value, or electronic purse, cards—in which the card contains a stored monetary value that is decremented with each purchase and incremented by loading additional value onto the card through automated teller machines (ATMs) or public telephones—was initiated in Swindon, England, in 1995. Smaller pilots were held in Canberra, Australia; in the Atlanta, Ga., metropolitan area in conjunction with the 1996 Summer Olympic Games; in New York City; and in Guelph, Ontario. All of these achieved only limited customer acceptance and were shut down by 1998. Another major problem is that these and other smart card ventures did not have a common technology. The development of the EMV standards for credit and debit cards in the 1990s, and the subsequent widespread adoption of these standards has led to global acceptability, but the United States did not see widespread adoption of the technology until 2015. The EMV chip is used with a signature or personal identification number (PIN), with the preference for signature or PIN varying by country; many EMV smart cards also have a magnetic strip for backward compatibility.

As memory capacity, computing power, and data encryption capabilities of the microprocessor increase, smart cards are envisioned as replacing such commonplace items as cash, airline and theater tickets, credit and debit cards, toll tokens, medical records, and keys. Suggested government use of a single smart card to replace driver's licenses, passports, social security, welfare, and health documentation, and the like has caused a debate concerning the civil liberty implications of such uses of the smart card, but cards with some or many of these capabilities have been adopted in a number of countries.

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