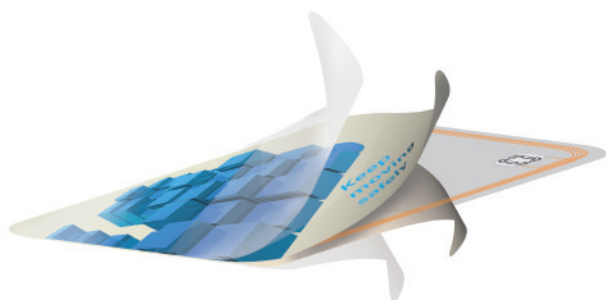
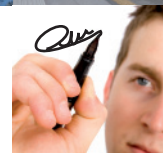


CSA



Cards



The **cards** division of Calmell has evolved so as to be able to offer **all types of product** in the public transport, loyalty and identification and accessibility among others. It includes **contact, contactless and dual technologies**.

Graphic and electrical personalisation: the cards can be printed in a **wide range of colours** using different systems, and individually personalised, incorporating numbers (laser or sublimation), chip encoding and the application of bar codes, magnetic stripes, signature panel, embossing and security holograms.

Contactless

Family	Product	RF Interface	Operative Distance	Frequency	Memory	Applications
Mifare	UL 1K 4K Plus Desfire/EV1	ISO/IEC 14443A	Up to 100mm	13.56MHz	512 bit 1 kB 4 kB 2 kB/4 kB 2 kB/4 kB/8 kB	Public transport Access and control Loyalty Car Parks
Calypso	CD21/CD21 Plus	ISO/IEC 14443B	Up to 100mm	13.56MHz	2 kB/ 8 kB	Transport Industrial Identification
ICODE	SLI-S SLI-S HC	ISO 15693	Up to 2.0m	13.56MHz	2 kB	Libraries and hiring services Pharmacies Fashion and retail Labelling

Contact / Dual

Type	Product	Capacity	Protocol	Applications
Memory	SLE 4442 / SLE 5542 Cryptomemory Any on request	2Kbit 512 bit a 256 Kbit 128 bit a 256 Kbit	I2C ext T=0 ANY	Access, Loyalty, Identification, Car Parks, etc.
Microprocessed	Cryptographic – EXA Card Java Card – Moka Card Calypso CD 21/CD 21 PLUS Other Operative systems	40 kB 80 kB 2 kB / 8 kB 2 kB / 192 kB	T=0 T=0 T=0 T=1	Electronic Signature, Citizen Card, Universities, Transport, Government, Banks, Identification

Any contact chip may be incorporated together with an RFID chip in the same card which is called a hybrid card.



As part of its environmental policy, CALMELL has incorporated a card made from **biodegradable material** into its product range. This was the result of the development of a new polymer, responding to the market need to take advantage of the unique characteristics of PVC, but offering an **ecological alternative**.

