

Dematerialization of processes and documents with biometric certification

PRB

INTRODUCTION



This document uses some terms and concepts non-specialists may not be familiar with:

- ➔ **Handwritten signature:** the standard signature you see written on a paper or electronic document.
- ➔ **Electronic document:** a document in electronic format, which may be displayed on a PC for example.
- ➔ **Dematerialize:** substitution of paper documents with electronic documents.
- ➔ **Graphometric signature:** an electronic handwritten signature stored together with its graphometric data (pressure, speed of stroke, etc.).
- ➔ **Graphometric data** may be measured both from a handwritten signature on paper and, with more detail, from an electronic signature handwritten on a graphometric pad (also incorrectly called a "biometric signature"). Graphometric data identifies the signature, not the person signing.
- ➔ **Biometric data:** data that uniquely identifies a person. This can be, for example, an electronic fingerprint, an iris scan, a voiceprint, the capillary pattern of the hand, etc.

AIMS OF THE PROJECT



TAB Firma Biometrica[®] is an innovative pad that acquires graphometric data while ensuring the customer signs in a natural way. Wherever you need certainty (for example in the banking, financial and insurance sectors), it is the ideal solution for:

- ➔ Optimizing the signature acquisition process.
- ➔ Dematerializing paper documents(1).
- ➔ Reducing the operating costs that stem from paper management.
- ➔ Increasing security (reducing the risk of fraud).
- ➔ Identifying the signature and customer with certainty.
- ➔ Streamlining and modernizing customer relations.
- ➔ Simplifying the work of Forensic Handwriting Examiners while analysing signatures.

(1) The mere cost of a paper document is about €2.50, without considering the working time (ABILab analysis, 2011)



TAB FIRMA BIOMETRICA®

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

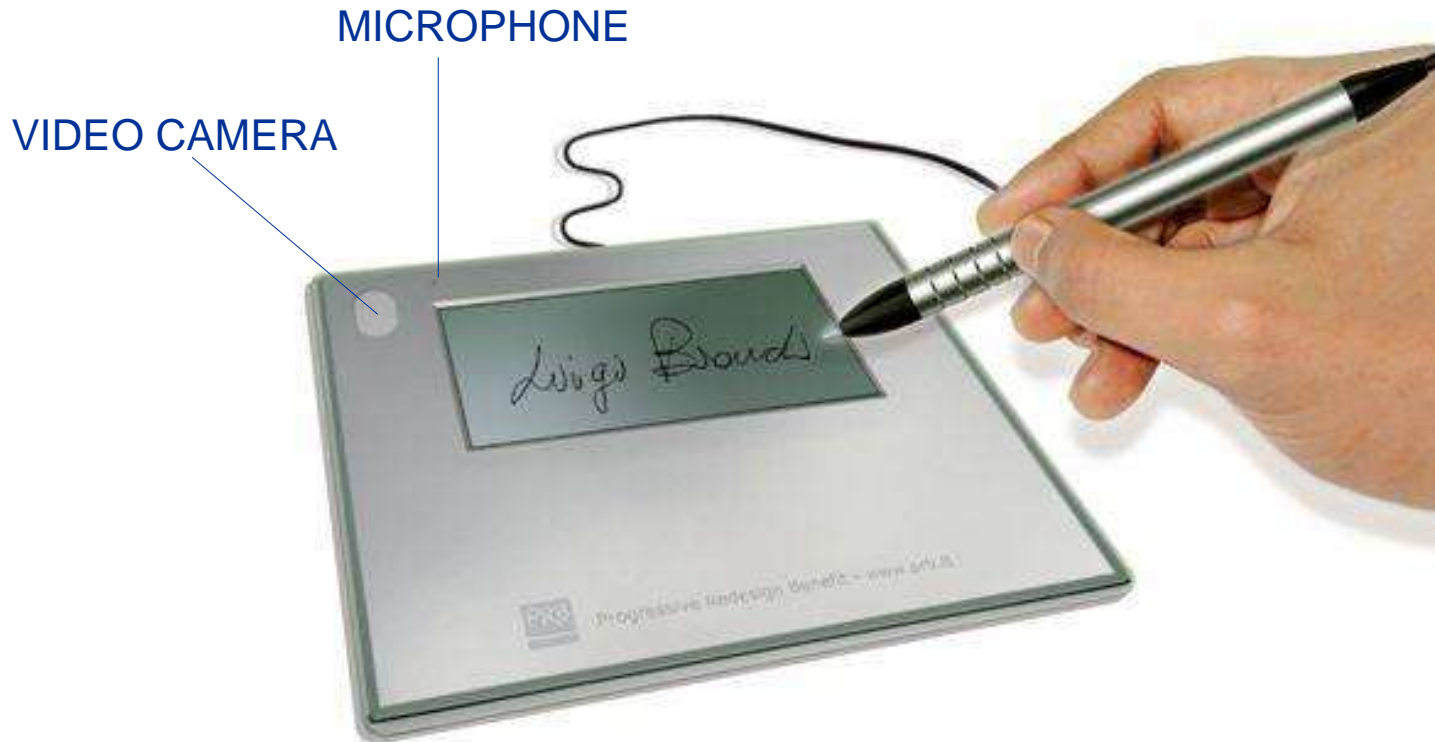
MAIN FEATURES



- ➔ *TAB Firma Biometrica*® is patented by PRB IT Research.
- ➔ It is the only signature pad in the world with video camera and microphone (up to 2011-2012).
- ➔ It is the only signature pad with 3D graphometric data display (patented).
- ➔ It ensures complete graphometric and biometric recognition.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

MAIN FUNCTIONS



Besides recording graphometric data, *TAB Firma Biometrica*® also optionally records face and voice biometric data. This ensures reliable recognition of the signature and the person.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

PRB ON ITS OWN: "ONE FOR ALL"



PRB has realized every detail of the project entirely on its own:

- ➔ Conception
- ➔ Electronic, mechanical and software design.
- ➔ Production, testing and quality control.
- ➔ Patenting of original features.
- ➔ Thorough analysis of the legal aspects and processes.



PRB is therefore able to customize the:

- ➔ Hardware
- ➔ Consulting
- ➔ Firmware
- ➔ Assistance
- ➔ Software
- ➔ Process

ON ITS OWN = guarantee of security and flexibility for the customer.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE GRAPHOMETRIC SIGNATURE ACQUISITION



TAB Firma Biometrica® is certified by the Chairman of the most important Italian Association of Forensic Handwriting Examiners for the completeness of the information it records, for the sampling rates and for the handwriting examination tools it makes available to the expert.

- ➔ Graphical Shape
- ➔ Acceleration
- ➔ Views
- ➔ Movement
- ➔ Pressure
- ➔ Detail Analysis
- ➔ Speed
- ➔ Time
- ➔ Comparisons
- ➔ Rhythm
- ➔ Breaks
- ➔ Expert's report

The signature acquired can therefore be used in legal proceedings for forensic handwriting examinations.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE HANDWRITING EXAMINATION TOOLS



Thanks to the accuracy of the properties measured, besides displaying the signature as a Cartesian diagram, the graphometric data may also be displayed in an innovative 3D diagram (patented by PRB in 2010 and 2011), which helps forensic handwriting examiners in their work and increases the exactness of their reports.



TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

MAIN SPECIFICATION HARDWARE



HARDWARE

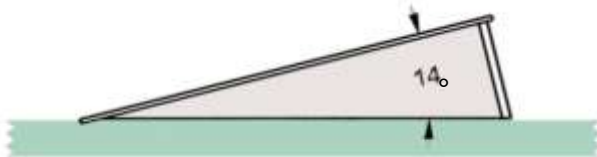
- ➔ 480 x 272 backlit display with 65,536 colours.
- ➔ Writing with black electronic ink and evidence of stroke pressure in the handwritten signature (as occurs on paper).
- ➔ Replaceable customizable pad surface with natural feel (paper-like).
- ➔ Sampling rate of over 400 points per second, including position, time, speed and pressure.
- ➔ Stroke pressure sensor with a total of 1024 pressure levels.
- ➔ Numeric keypad (software enabled).
- ➔ Video camera and microphone (software enabled option).

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE MAIN SPECIFICATION HARDWARE



HARDWARE

- ➔ Convenient magnetic pen holder.
- ➔ Naturally sloping signature pad on the same level as the wrist support.
- ➔ Signing surface with support and table fastening.



- ➔ Signing surface may be embedded in the table top and therefore completely built in.



(a document with full specifications is available)

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

SOFTWARE PROVIDED



- ➔ Software for placing the handwritten signature on the document and including graphometric data in the document file.
- ➔ Tamper-proofing of signed document with complex encryption and algorithms.
- ➔ Signature comparison with percentage match.
- ➔ Three-dimensional display of graphometric data with zoom and rotation (for forensic handwriting examiners): a complete forensic tool.
- ➔ Biometric face and voice recognition (software enabled option).
- ➔ APIs for quick connection to external programs.
- ➔ .NET SDK (including explanatory sample code).
- ➔ Java SDK (including explanatory sample code).

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE «NATURALE» SIGNING EXPERIENCE



- ➔ Signing "feels natural", just like signing a paper document.
- ➔ This important feeling is achieved by:
 - A paper-like signing surface with the roughness of a sheet of paper.
 - Realistic feeling of applied pressure while signing: the stroke on the pad screen and the clerk's monitor varies as the pressure applied changes.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE CLERK SIDE PROOF



Document during signing.

The screenshot shows a document with a central digital signature pad. The pad displays the name 'Luigi Bianchi' in a yellow box with a green checkmark and a red 'X' button. A red arrow points to the pad with the text 'Real-time display of the pad and signature.' The document background includes the PRB logo, company details, and a table of interest rates.

SEDE LEGALE
CAPITALE SOCIALE
ISCRIZIONE TRIBUNALE
ISCRIZIONE AL REGISTRO SOGGETTI AUTORIZZATI

Il presente contratto redatto ai sensi del Regolamento 2007/07 (parte X rapporti con la Clientela) sostituisce, ove presente, il precedente già in essere e non costituisce novazione dello stesso. A

APERTURA

Condizioni economiche riservate a: 000

BIANCHI LUIGI nato il 25/07/197

di seguito Cliente/i

TASSI DEBITORI	
Limite 1° scaglione	5,00
TAN 1° scaglione (*)	15,00
TAEG 1° scaglione	40,00
Limite 2° scaglione	75,00
TAN 2° scaglione (*)	5,00
TAEG 2° scaglione	5,00
Limite 3° scaglione	30,00

PRB Progressive Redesign Benefit - www.prb.it

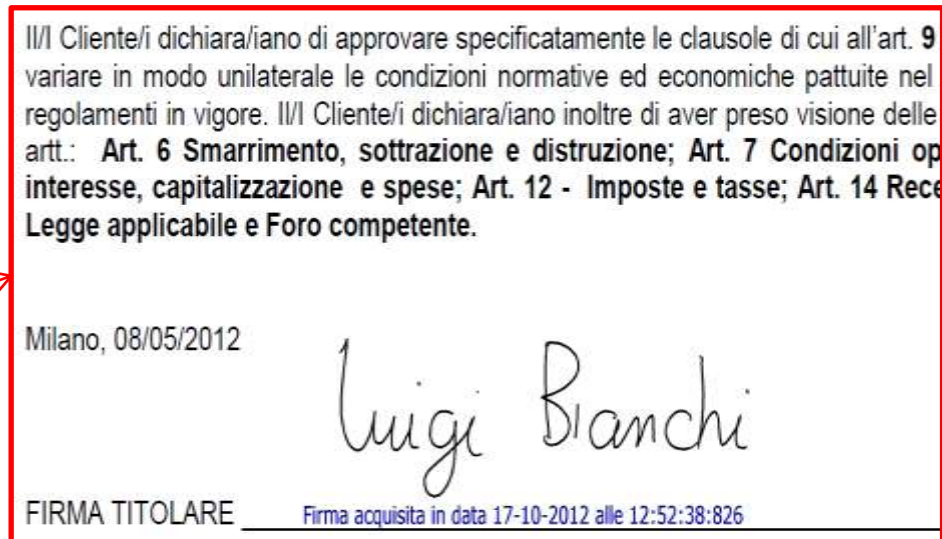
- ➔ The clerk sees the document being signed and a digital image of the pad on which the signature appears in real-time as the customer writes it.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

SIGNER SIDE PROOF



- ➔ The clause to be approved appears on the TAB Firma Biometrica® screen. The handwritten signature is automatically placed in the document under the approved clause.



- ➔ Graphometric signature data is also included and inextricably linked to the document. It cannot be extracted for use in other documents.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

EVIDENCE ON DOCUMENT



**LETTERA DI ADEBITO ED ACCREDITO IN CONTO CORRENTE**
Gli assegni e i vaglia presentati per l'accreditamento in C/C s'intendono accettati con riserva di verifica e salvo buon fine. Gli importi accreditati non sono disponibili prima che l'Azienda abbia effettuato la verifica o l'incasso dei titoli; la valuta applicata all'accreditamento determina unicamente la decorrenza degli interessi. Ove sia concessa l'anticipata disponibilità degli importi accreditati, in caso di mancato buon esito il presentatore è tenuto ad effettuare immediatamente il rimborso.

FIL OPERANTE [003] PIAZZA GARIBALDI
Vogliate cortesemente prendere nota delle scritture sottoindicate, effettuate sul Vostro conto corrente:

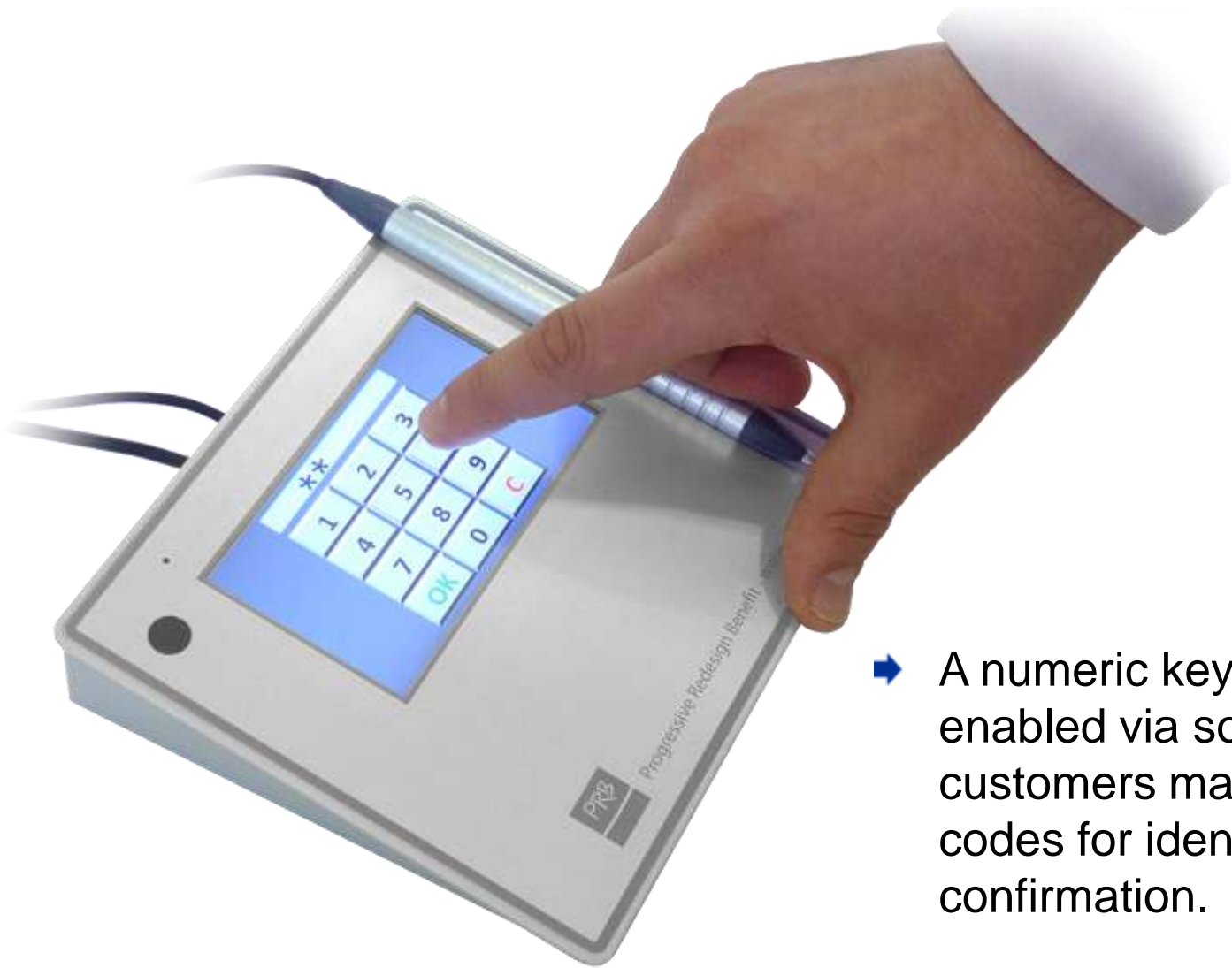
DIVISA COD. FIL/C.C. N. N. TERMINALI OPERATORE	Euro 12345678/00 1565 0230 - RIMOA0708	Egr. Sig. Luigi Bianchi Via Verdi, 8 20135 MILANO
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N°TRANSAZIONE	DATA VALUTA	IMPORTO	A VOSTRO	CAUSALE CONTABILE
67160901909	30.04.2012	684,00	Credito	VERSAMENTO ASSEGNO

- ➔ The data concerning the "signing process" is also recorded in the document and partly displayed in it:
- *Date and time of signature.*
 - *Clerk's name.*
 - *Type of transaction.*
 - ...

These are the so-called "surrounding circumstances" that judges assess if signature authorship is disputed.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE PIN ACQUISITION



- ➔ A numeric keypad can be enabled via software so that customers may type in PIN codes for identification or confirmation.

TAB FIRMA BIOMETRICA® - SI-SAFE IDENTITY® LINE

LINK TO EXTERNAL SOFTWARE



- ➔ Powerful APIs make it possible to manage the TAB Firma Biometrica® from an external software application in order to, for example:
 - Display text on the pad screen (with the chosen font, style, size and colour).
 - Show images on the pad screen.
 - Make one or more areas of the pad screen sensitive.
 - Enable the numeric keypad for PIN acquisition.
 - Start signature acquisition.
 - Acquire the signature file (saved with security encoding and encryption).
 - Calculate the percentage match between the signature acquired and the graphometric specimen.
 - Electronically sign a PDF or TIF file.

- ➔ APIs for linking the TAB Firma Biometrica® are available natively for the Microsoft .NET environment and for the Oracle Java environment.



SI-Safe Identity[®]
TAB Firma Biometrica[®]
TrueCheck[®]
DSM Document Signature Management[®]
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