ATM PROTECTION
Intelligent Banknote Neutralization (Staining) System Evolution

Rui Carvalho
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**EAST*  Reported Numbers**

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**ATM Related Physical Attacks - Total Reported Incidents**

Source: European Association for Secure Transactions (EAST)
Security solutions to support ATM protection
Evolution... Regulation is the word

Available solutions in the market are evaluated in different parameters and capabilities, including:

- Gas Attacks
- Solid Explosive attacks

Public awareness and safety is raised through media communications, as well as on information screens during ATM operations.

Technology is being deployed in new ATMs identified in high risk locations.
Regulation and Certification

In Field Test
100 % of notes, over 25% stained area
The results

The “Deny Profit” concept through IBNS technology effectiveness is confirmed and becomes one of the standard protection solution for high risk ATMs.

Inicially problem but, now... solved

• Too many false activations with associated costs
• Notes are exchanged in parallel markets
• Notes are not always stained adequately
• High maintenance systems
• Cassette models and denomination compatibility issues
• Systems reduce banknote capacity in cassettes
• Delayed technological advances
Technological Evolutions of IBNS

- Staining inks continue to evolve, both in washing resilience and banknote substrate compatibility
- DNA traceability provides irrefutable evidences both criminal investigation and criminal conviction
- Efficiency and better improvement allow for longer life and reduced maintenance
- Smartdoor provides additional level of protection and efficiency in maintenance of the systems

- Continuous R&D & Several certifications and patterns
- Remote monitoring and tracking
- Logical protection
- Black Box and malware attacks
- Logical protection was developed and integrated into Smartstain IBNS
Evolution of IBNS Smartstain components

Sentry - Hybrid attack detector
- Gas sensor
- Seismic sensor
- Light sensor

Fusion Connection Hub

SmartGas
- Prevent gas attack stopping explosion

Smartstain Observer
- 3G communications
End-to-end IBNS protection

- Implementation of end-to-end IBNS protection, allowing full protection of ATM cassettes during transport by CIT's.

- New generation end-to-end technology will allow full online monitoring with real time GPS tracking, providing additional protection for CIT transport on the pavement as well as in non-armored vehicles.

- As all SMARTSTAIN products, new End-to-End protection technology will offer human error free capabilities, providing worry free operation and controlled maintenance costs.
Certification Tests
Central Bank Of Portugal

Explosion Certification
Military Police in Portugal

Explosion Certification
French Laboratory

Explosion Certification
Military Police Chile
Intelligent Banknote Neutralization System implementation

THANK YOU
ATM PROTECTION

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# Advantages

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<td><strong>1</strong></td>
<td>Prevents damage from the explosion at the plant, machinery and human lives;</td>
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<td><strong>2</strong></td>
<td>Avoid costly losses and breaks functioning of the activity</td>
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<td><strong>3</strong></td>
<td>Easy installation compatible with all models of ATMS’s</td>
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<td><strong>7</strong></td>
<td>Non-toxic and neutral for the environment;</td>
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<td><strong>9</strong></td>
<td>G.W.P. (Global Warming Potential) = 0;</td>
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