



Hurdles to the Adoption of New Methods II: The Regulators Strike Back

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- > Adoption takes time
 - > Technology needs to work better, predictably and reliably, at an acceptable cost
 - > Play nice with others
 - > Try to know if you're solving an existing problem or a new problem
 - > The future is unpredictable (but mostly predictable)
 - > To be successful as a business develop something to meet a regulation

> **Security tends to be reactive**

- An event occurs
- Government responds and creates a requirement/regulation
- Security Developers (Academic and Commercial) develop solutions

Or...

- An ROI exists
 - Better facilitation, staff savings, reduced footprint
- Regulation adjusted to allow for facilitation
- Security Developers (Academic and Commercial) develop solutions

- > **Security technology is made and sold by commercial companies:**
 - Development of new technology is shared between business and academia
 - Development of new technology can be funded by government

- > **Business will only move forward if there are sales opportunities or the perception of sales opportunities:**
 - ROI

- > **Nothing convinces a company board more than a regulation or a promise of regulation that requires a customer to buy your technology**

> **Two types of markets:**

> **Federalized (US, German, etc..)**

- Government regulates, buys and operates security equipment (HBS, Checkpoint)
- Behaviour:
Early adopter (usually)

> **Un-federalized (US (Cargo) EU, RoW)**

- Government regulates, airports buy and operate security equipment
- Behaviour:
Grudge purchase
ROI needs to be demonstrated

> **Mouse**

- Early adoption in 1984
- Full adoption in 1995
- Introduced in 1963

> **Tablet**

- Early adoption in 2007
- Full adoption in 2010
- Introduced in 1984

> **Internet**

- Early adoption in 1979

- Broad adoption in 1995

- Introduced in 1969

> **Fax Machine**

- Invented in 1843

> **Internal Combustion Engine**

- Broad adoption in 1913

- Invented in 1870

> **Velcro**

- Invented in 1941

> **EDS**

- Early adoption in 1994
- Full adoption in 2004* (US), 2020+ (EU)
- Introduced in 1990

> **ETD**

- Early adoption in 2001
- Full adoption in 2005(US)
2014(EU)
- Introduced in 1970 (IMS)

> **AIT**

- Early adoption in 1998
- Broad adoption in 2013(US),?(EU)
- Introduced in 1991

• **LAGs Screening**

- Partial adoption in 2014
- Full adoption in 2015+
- Invented in 1994

- > **LAGs ban put in place as a response to an event that happened in 2006.**
 - No LAGs allowed on aircraft, only small quantities (3-1-1).
- > **Ban was always temporary**
 - Quad countries decided to work towards lifting the LAGs ban (2008)
- > **Timeline:**
 - Phase 1 Lifting of the LAGs ban failure (2011)
 - Phase 1 Lifting of the LAGs ban success (2014)
 - Phase 2 and 3 delayed but will treble installed base



2000+ LAGs
Screening
Systems
Sold

Successful as selling to meet an existing regulation

> **Explosive Detection System (EDS) Certification Criteria developed as a response to the Lockerbie Incident (1986)**

> **EDS Certification Process introduced in 1992**

> **Timeline**

- One company develops system that achieves regulation (1993)

Government funds others to provide competition

- Limited deployment on selectee checked baggage only (1995)

1st in market nearly goes out of business

100 EDS
Systems Sold

- Full Deployment on all checked baggage (2001)


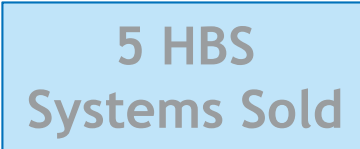
Company 1st in the market sells for record amount

1000+ EDS
Systems Sold

Successful as selling to meet an existing regulation*

- > Company identifies technology suitable to detect explosives
- > Develops with the aid of government funding a whole series of embodiments of the technology

> **Timeline**

- Company develops explosive detection demonstrator (1994)
- Company develops HBS systems (1998)  
- Company develops Checkpoint systems (2000)
- Another company develops a combined technology system (2005)
- Technology “moth balled”

5 HBS
Systems Sold

Unsuccessful in part as no regulation exists

> **Air Cargo**

- Selectee Physical Screening only
- Basic Screening Requirements
 - Image Quality
- Drivers: Operational ROI based on regulatory requirements
 - Dual View
 - Non Federalized

> **Large Cargo (Containers, Trucks, Trains)**

- Customs Revenue Recognition - ROI
- WMD Detection
- Narcotics...

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- > **More stringent inspections**
 - ACC3

 - > **More physical screening**

 - > **Improved screening requirements**
 - Automated detection (EDS like)

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- > Large Company Lobbying
 - > Large Airport Lobbying
 - > Trade Associations Lobbying

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- > **It meets an existing regulation**
 - > **It does no harm**
 - No new costs, training, expertise
 - Health, Privacy
 - Operational, in both reality & perception
 - > **It has an ROI**
 - Facilitation, Operation, Maintenance, Replacement
 - > **It doesn't break**
 - > **It works**
 - Better than what was before (in both reality & perception)
 - Testable & understandable
 - > **It should work (better) in the future (platforms)**
 - > **It meets an existing regulation**
 - > **It works**
 - > **It plays nice with existing systems**
 - > **It has an ROI**

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- > Come up with something cool!
 - > Understand the environment for its use
 - > Determine if a regulation exists or will do within the developmental timeframe
 - > Get the timing right (acquisition cycles)
 - > Have an understanding spouse
 - > Sell loads
 - > Retire and buy spouse things



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