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

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Moirans MultiX plant

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> So What? Who cares?

- 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

> The Realities

- **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**

> The Security Market

> 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

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> Case Histories (Unregulated)

> Mouse

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

> Tablet

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

> Internet

- Early adoption in 1979
- Broad adoption in 1995
- Introduced in in 1969

> Fax Machine

- Invented in 1843

> Internal Combustion Engine

- Broad adoption in 1913
- Invented in 1870

> Velcro

- Invented in 1941

> Case Histories (Regulated)

> EDS

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

> AIT

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

> ETD

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

- **LAGs Screening**
  - Partial adoption in 2014
  - Full adoption in 2015+
  - Invented in 1994

> Good Example: Lifting of the LAGs Ban

- **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

Successful as selling to meet an existing regulation

2000+ LAGs Screening Systems Sold

> Another Example: EDS

> 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) → 100 EDS Systems Sold
  1st in market nearly goes out of business
- Full Deployment on all checked baggage (2001) → 1000+ EDS Systems Sold
  Company 1st in the market sells for record amount

Successful as selling to meet an existing regulation*

> Bad Example

- **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

> Cargo Current Status

> 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…

> Cargo Future

> More stringent inspections

- ACC3

> More physical screening

> Improved screening requirements

- Automated detection (EDS like)

> Other Drivers

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

> Why Does technology get adopted? The 10 Reasons

- **It meets an existing regulation**
- **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 plays nice with existing systems**
- **It does no harm**
  - No new costs, training, expertise
  - Health, Privacy
  - Operational, in both reality & perception
- **It should work (better) in the future (platforms)**
- **It meets an existing regulation**
- **It works**
- **It has an ROI**

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> How to Succeed

- 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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