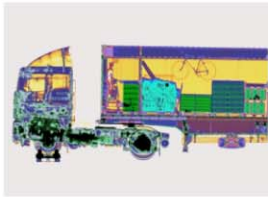


# Smiths Detection CBDAIF Presentation

22 May 2008

Presentation by: Tim Picciotti, VP/GM US Military



## Smiths Group: Operating in three sectors. Each with a strong growth profile

### Smiths Detection - sales \$876m



Equipment for homeland defence business security and protection of the military

### Smiths Medical - sales \$1382m



Specialist devices and equipment for critical healthcare

### Specialty Engineering - sales \$2064m



Application-specific components for energy, defence & communications markets

- Sales 2007: \$4322m
- Listed on London Stock Exchange
- Member of FTSE 100 largest UK companies
- Founded 1851
- 20,000 employees in over 50 countries
- Chief Executive – Philip Bowman

A world leader in the practical application of advanced technologies.  
Making the world safer, healthier and more productive

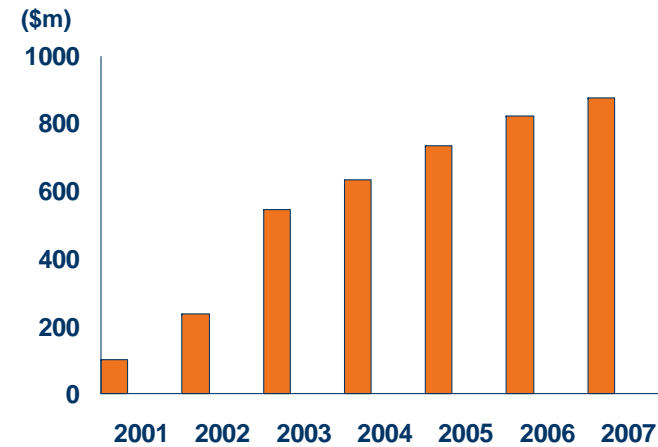
smiths detection

## Smiths Detection overview

### Financial performance 2007

|                | \$m | Reported growth |
|----------------|-----|-----------------|
| Sales          | 876 | +6%             |
| Trading profit | 158 | +6%             |

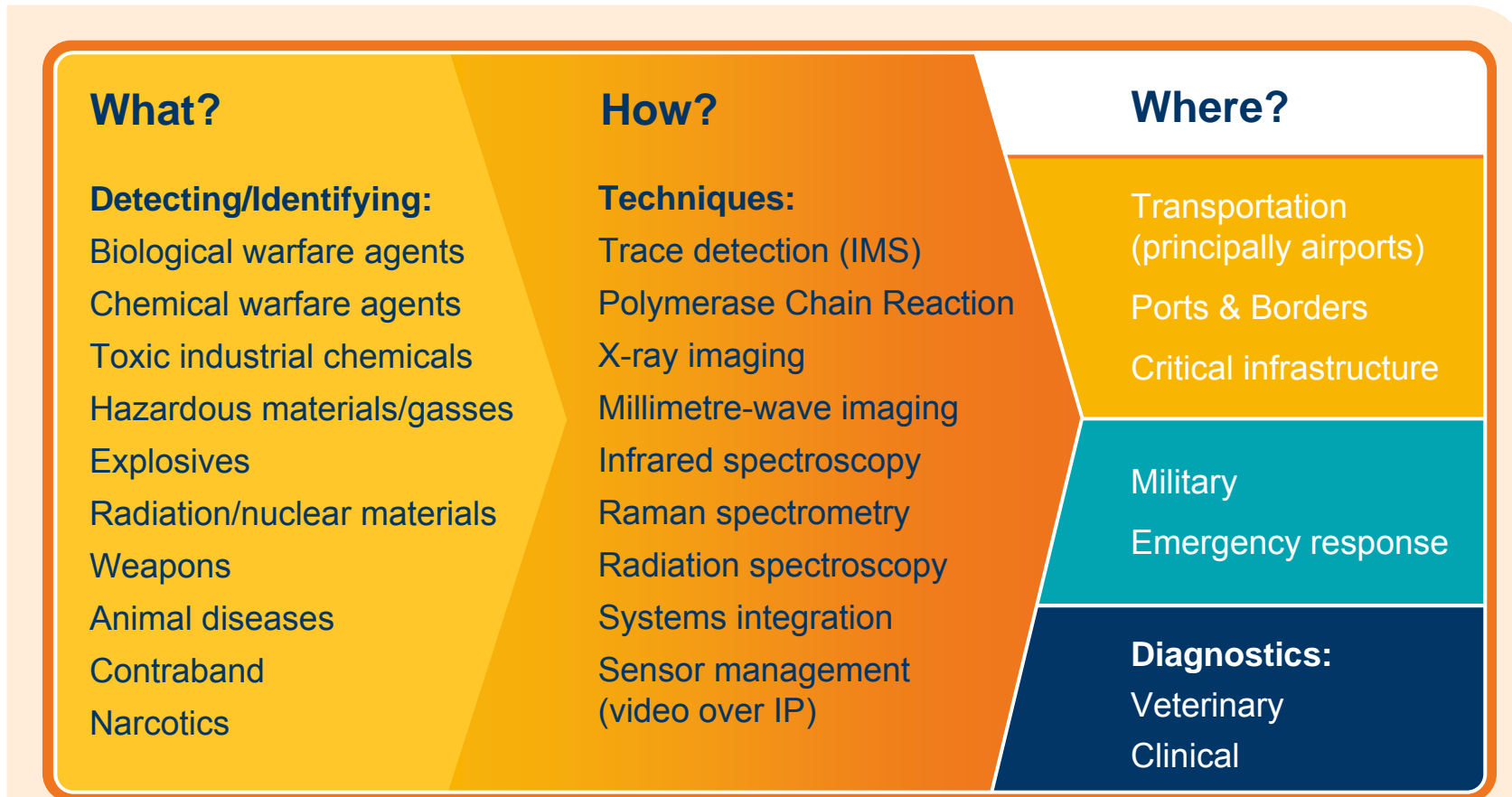
### Growth since 2001



### Smiths Detection is:

- The world leader in the provision of Government regulated detection systems - more than double the size of its nearest competitor.
- A prime contractor with 85% of sales to more than 100 governments globally

# Shape of Smiths Detection today: tackling the widest range of threats



Making the world a safer place by supporting governments with the most advanced detection technologies to equip those who preserve global stability

# Shape of Smiths Detection today: Taking detection technologies into key markets

## Security and Inspection

Established businesses



Airport security



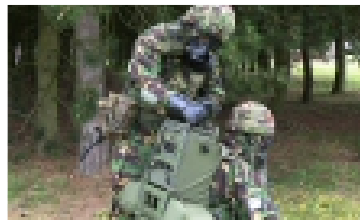
Ports & Borders



Critical infrastructure

## Military and Emergency Response

Established businesses



Military CBRN detection



Integrated systems



Emergency response

## Diagnostics

New businesses



Veterinary

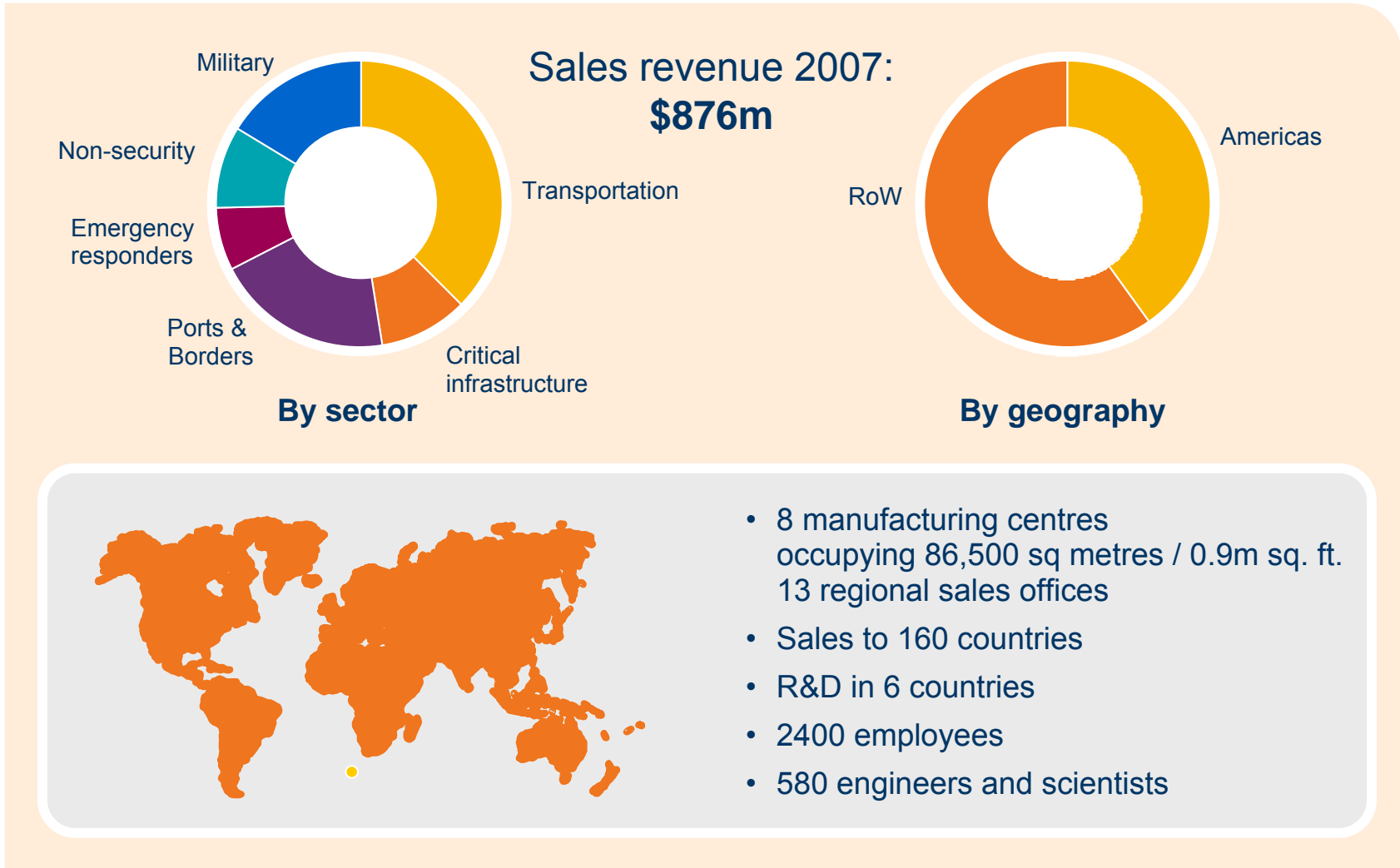


Clinical

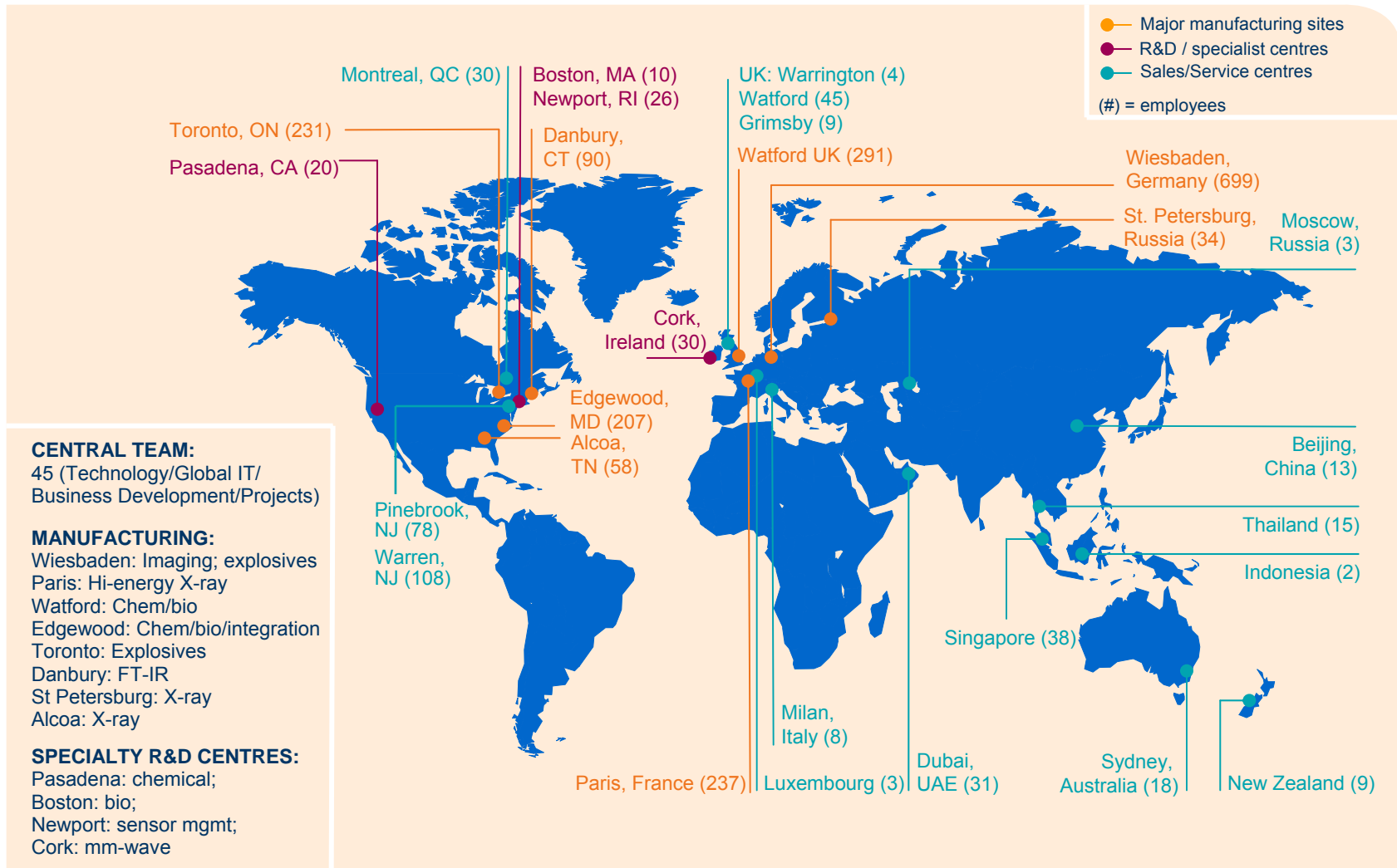
More technologies in more sectors in more countries than any other company

smiths detection

# Smiths Detection fact file



# Smiths Detection has true global presence



Security  
& Inspection



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# Security and Inspection market

Security & Inspection

## Wide range of technologies



Checkpoint X-Ray



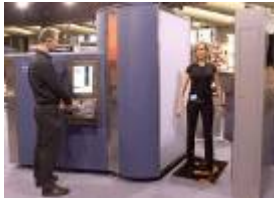
Explosives Detection System



Sensor management



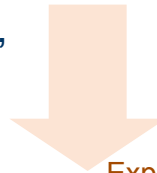
Cargo X-Ray



Millimetre wave



**Searching for:** explosives, weapons & contraband in a wide range of markets



Explosives Trace Detection



Airport Security



Critical Infrastructure



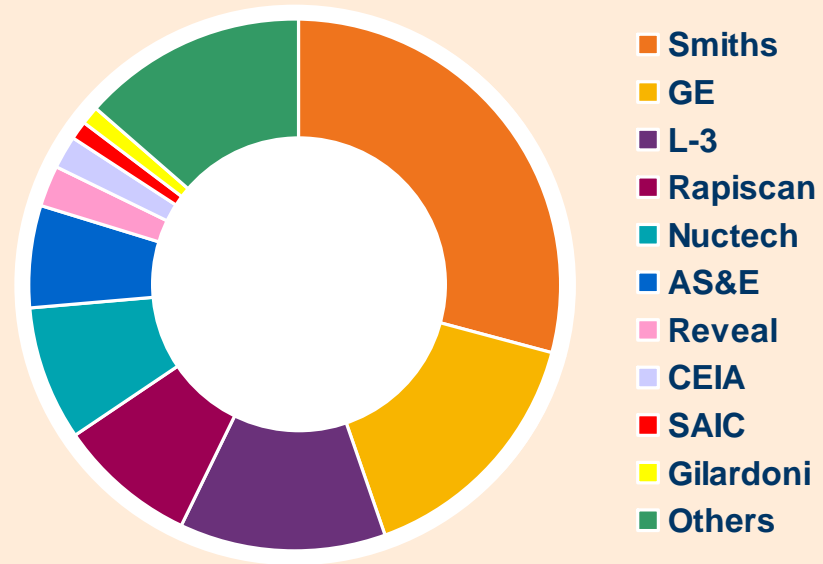
Ports & Borders

# Security and Inspection - market position

- Global Leader
- >40,000 X-Ray machines deployed worldwide
- Recognized technology leader in X-Ray and explosives trace detection
- Broadest range of technology

Independent survey of the global market for weapons and contraband detection equipment 2006, sensors only. Not military or ER markets.

Source IMS Research



**No clear no. 2 company in market, behind Smiths Detection**

## Focus on aviation security market

**Description:** Screening of passengers, bags, cargo and airline staff, to detect weapons and explosives

### Key features

- Highly regulated, high barriers to entry
- Long product introduction cycle
- Different process in US and ROW

**Customers:** Combination of Government regulators and airport operators. Key customers: TSA, BAA, German Mol, Siemens

### Trends:

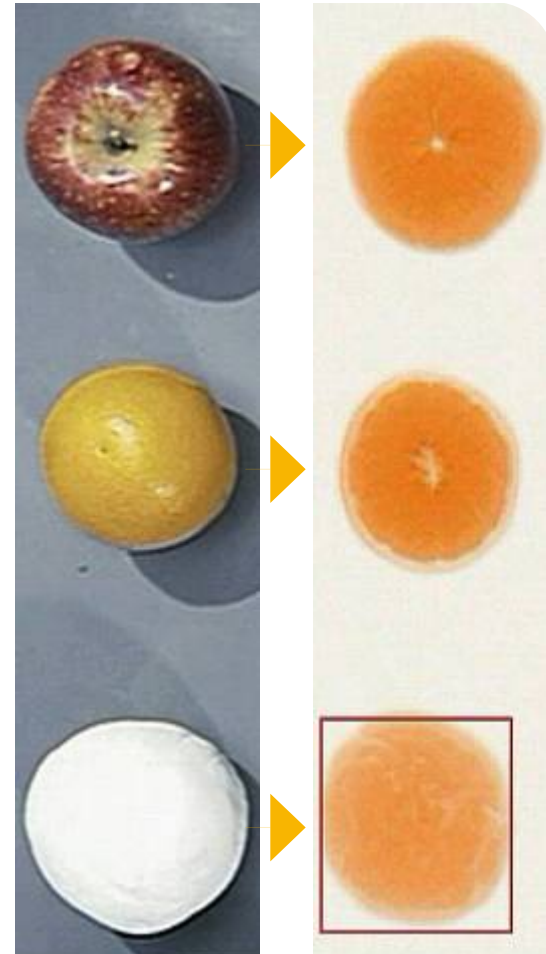
- New technology for screening of people
- Automated explosives detection
- Focus on improving passenger throughput
- System integration
- Increasing focus on air cargo



## Aviation security: checkpoints

Security  
& Inspection

- **Customer requirements:** Automatic explosives detection in hand baggage and faster passenger throughput.
- **Our solution:** Internal development of aTiX and iLane checkpoint concept
- **Groundbreaking developments:**  
**aTiX:** multiple views of bags – rapid automatic detection of explosives and liquids  
**iLane:** automatic separation of suspicious bags & tray return
- **Additional customer benefit:** Cost savings through optimised workflow
- **Results:** **BAA** ten year partnership - initial \$40m contract. **TSA** trials and initial \$21m contract



First new X-ray technology at airport checkpoints for a decade

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# Imaging Systems: Carry-on Baggage Screening

## aTiX: Advanced Threat Identification X-ray

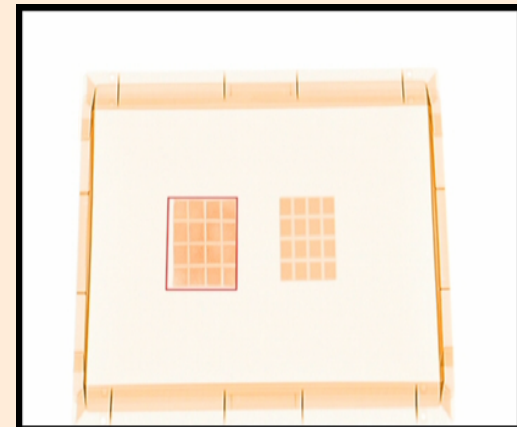
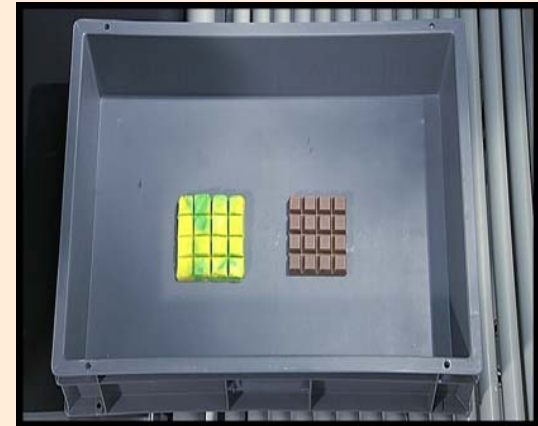
- Multiple view carry-on luggage screening system
  - 2<sup>nd</sup> generation multi-view technology
  - Four views optimized for carry-on luggage
  - 6040 aperture for carry-on luggage
  - MAT colored image
- Automatic Detection of Threats
  - 2-D analysis [Z] from all views
  - 3-D detection reconstruction [ $\mu$ , $\rho$ ] capable
  - Algorithm based threat detection



# aTiX: Technology Overview

## Automatic Detection of Objects

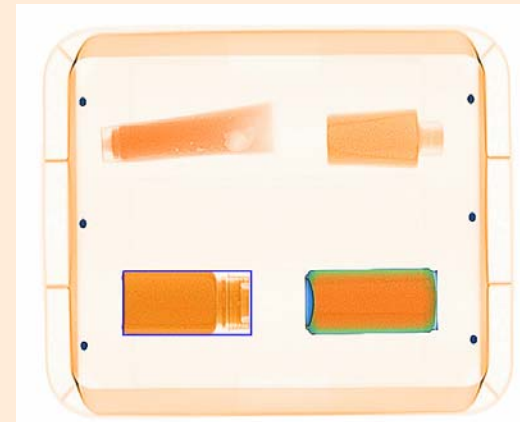
- Detection of items using dual energy information
  - $Z_{\text{eff}}$  [color]
  - Absorption [darkness]
- 2-D and 3-D evaluations from multiple views
- Multiple algorithm parameter settings available
- Detection of bulk/sheet threats implemented
  - Continued work with DHS
- HME / liquids detection
  - Collaboration with DHS



## aTiX Developments: Liquid Detection

### Liquid Detection

- Liquid Detection Software in Test by DHS
  - Screens liquids in plastic containers
  - Uses TSA standard bin
  - Real-time automatic result



## Focus on ports and borders market

Security  
& Inspection

**Description:** Screening cargo and freight at ports, airports and borders to prevent transit of weapons, drugs and contraband

### Key features

- High growth as governments move towards 100% screening
- Some separation of security and contraband segments
- US focus on 'dirty bomb' materials
- Crowded and competitive market place

**Customers:** Primarily Customs authorities

### Trends:

- US pushing pre-shipment screening
- Local manufacture in key markets
- High through-put
- Search for reliable automatic explosives detection
- Improved Rad/Nuc detection

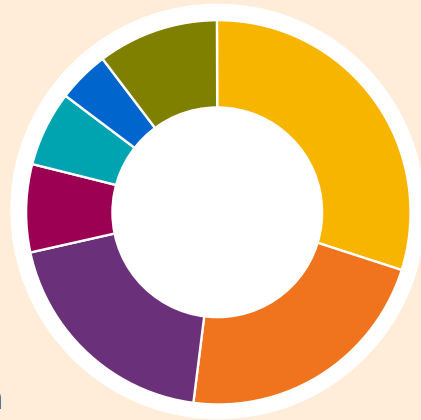


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# Market position in Ports & Borders

Security & Inspection

Est. market 2006 - \$500m



- Nuctech
- Smiths
- AS&E
- Rapiscan
- L-3
- SAIC
- Others

Source: IMS Research

Independent survey of the global market for P&B cargo screening 2006



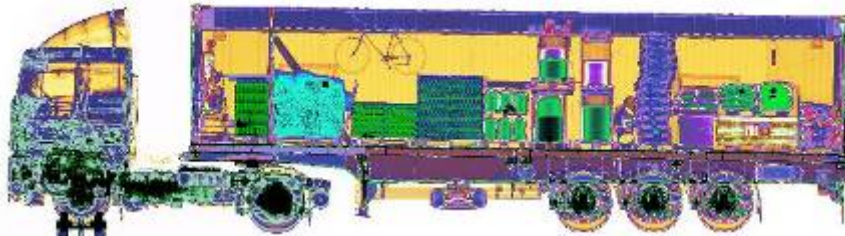
HCV Stationary



HCV Mobile (US and EU)



HCV Gantry



Cargo screening sales doubled 2006 to 2007

# Taking detection technologies to new markets

Security  
& Inspection

## Product Inspection

- X-ray technology gives food processing industry unsurpassed quality control.
- Systems ensure product integrity
- Consistency monitoring
- Identifying contaminants, defects or missing ingredients



## Scientific

- Using trace detection and FT-IR technologies to enhance QA/QC procedures
- Applications in laboratories & pharma manufacturing
  - Cleaning validation
  - Laboratory analysis
  - Industrial chemical identification

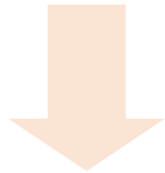


Military &  
Emergency Response



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## Laboratory science in the hands of the professionals



Searching for and protecting against: chemical, biological, radiological, nuclear and explosive threats in two closely aligned markets



Military



Emergency response

## Military CBRN detection capability

Military &  
Emergency Response

- Strong track record of supplying chemical & biological warfare detection capability
- Addressable market size: c\$500m pa
- Increased emphasis on:
  - Systems integration
  - Bio detection
- Major contract opportunities - JCAD; CBPS

**CBRN:**  
Chemical, biological, radiological, nuclear



The global market leader - 125,000 CW detectors deployed worldwide

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# Technology for Emergency Response

## Military & Emergency Response

- Fast and reliable identification
- Ruggedised Systems
- Laboratory science in the hands of first responders
- Adding technologies – Raman, mass spectrometry
- Selling complementary products



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## Strategy based on a strong product pipeline

Military &  
Emergency Response



Multi-sensor chemical detector (launched 2007)



Radiation detector (launch 2008)



Chem Alert (launch 2008/9)



Portable GC-TMS system (launch 2009)

- Meeting requirement for fast, reliable, ruggedised identification systems
- Laboratory science for use in the field
- US >50% of global addressable demand helped by 'top-down' funding - DHS grants provide \$3.6bn to support emergency responders

Strategy:

Expand product range

Grow non-US sales



smiths detection

# Rapid disease diagnosis for vets

Diagnostics

## Objectives:

- Take Smiths Detection technologies and experience into new growth markets

## Drivers:

- Need for rapid on-site diagnosis of diseases instead of lengthy lab analysis

## Requirements:

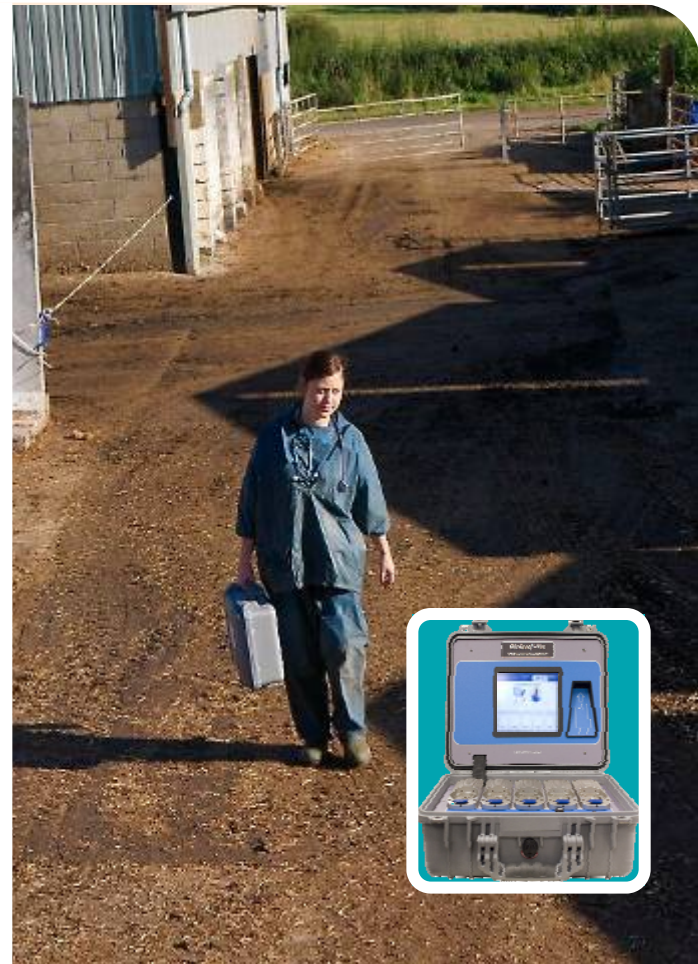
- Portable, lightweight, rugged, easily decontaminated, easy-to-use

## Technology solution:

- Combining LATE-PCR from Brandeis University with our skills in developing rugged instruments

## Outcome:

- World's first portable vet diagnostic laboratory, initially for Avian Flu and Foot & Mouth Disease



Analysis in less than 90 minutes - big potential for LATE-PCR in other markets

## Investing for the future

### R&D investment (centrally funded) 2007 - \$47.8m

- Investment up 12% on FY07.
- Increased investment in:
  - Bio detection
  - Millimetre wave people screening
  - Cargo X-ray
  - Systems Integration
- Continued investment in performance improvement and product cost reduction.

### Product launches following in-house programs

**aTiX & iLane: Threat detection X-ray & automated checkpoint**, Initial orders >\$60m



**500DT: Explosives detector**, International sales already achieved



**HGVI: Chemical detector for First Responders**, Launched October 2007,



**LCD 3.3: Chemical agent detector**, Accepted - US JCAD program, 50 sold to Germany



**SBS Bio threat sensor** Launched AUSA Nov 07, Successful trials,



## Summary



A prime contracting business to governments globally, detecting threats to security and supporting resilience and preparedness



Advanced technologies in rugged systems supplied to military and civil markets



A high growth business with a broad market spread and global reach



Continuous innovation through R&D investment, with increasing systems integration role