

ERPAN Meeting

7th June 2010, CEPN Paris

X-ray security

- Body & vehicle scanners

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X-ray security body & vehicle scanners

Health and Safety
Executive



Body scanning

X-ray backscatter

mmWave

THz

Transmission

Vehicle scanning

X-ray backscatter

X-ray transmission

X-ray security body & vehicle scanners

Health and Safety
Executive



Body scanning

X-ray backscatter

mmWave

THz

X-ray transmission

X-ray security body & vehicle scanners

Health and Safety
Executive



Body scanning X-ray backscatter (Rapiscan 1000)



Photographs courtesy of Rapiscan: www.rapiscansystems.com

X-ray security body & vehicle scanners

Health and Safety
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Body scanning - mmWave (GHz)

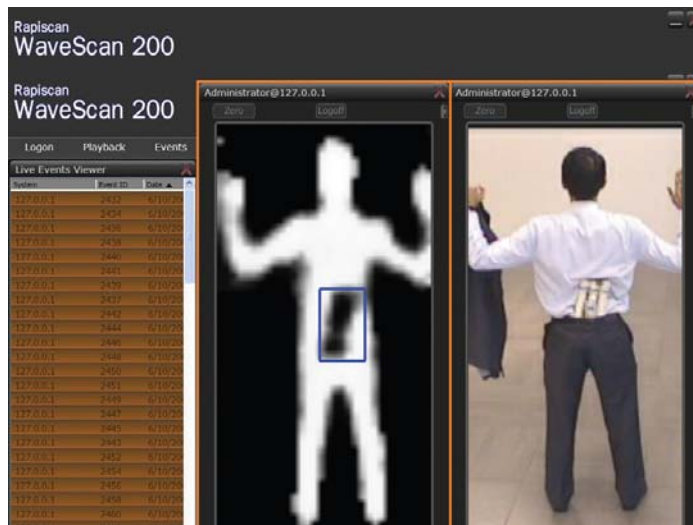
Uses “harmless radiowaves”

100s systems installed worldwide

Amsterdam & E Europe airports

Trials in UK, France, Italy

US government buildings, prisons,
courthouses, corporate facilities



Photographs courtesy of Rapiscan: www.rapiscansystems.com

X-ray security body & vehicle scanners

Health and Safety
Executive



Body scanning - THz

Emerging technology

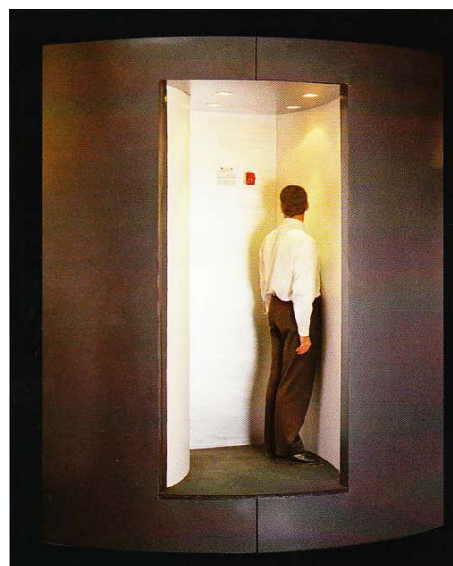
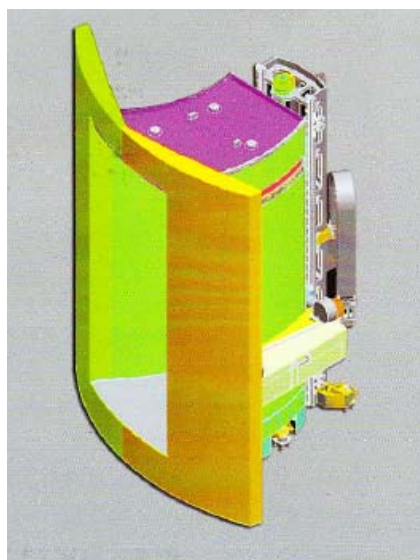
Can detect smaller items

X-ray security body & vehicle scanners

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Body scanning Transmission X-ray



SCANNEX
LOW DOSE FULL BODY X-RAY SCANNER



X-ray security body & vehicle scanners

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Body scanning Transmission X-ray



ADANI Technology (Medical
& security)

Airports

Seaports

Railway stations

Prisons

Weapon plants

Diamond Mines

Used by Customs in UK airport

US 'unlimited usage device'

Photograph courtesy of ADANI: www.adani.by

X-ray security body & vehicle scanners

Health and Safety
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Vehicle scanning

X-ray backscatter

X-ray transmission

X-ray security body & vehicle scanners

Health and Safety
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Vehicle X-ray scanning - Transmission



X-ray security body & vehicle scanners

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Vehicle X-ray scanning - Backscatter



Photographs courtesy of AS&E: www.as-e.com

X-ray security body & vehicle scanners

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Vehicle X-ray scanning - Backscatter



Photographs courtesy of AS&E: www.as-e.com

X-ray security body & vehicle scanners

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Baggage inspection

Body scanning

X-ray backscatter

mmWave

THz

X-ray transmission

Vehicle scanning

X-ray backscatter

X-ray transmission

IAEA BSS

Not normally justified – only in exceptional circumstances

EX BSS

Non-medical imaging must have special consideration.

If justified, some requirements to be met (including having NIR alternative available)