

# AVSEC EXECUTIVE LEADERSHIP TEAM



2.b

**DATE OF MEETING: 20 OCTOBER 2017****AGENDA ITEM: PEOPLE SCREENING CAPABILITY DEVELOPMENT- AIT****AGENDA ITEM NO:**

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## PURPOSE OF REPORT

The Advanced Imaging Technology (AIT) development commissioned by you for this calendar year is complete and we are now in a position to move forward with next steps. We are now at a stage to describe impacts of implementation and indicate options for and next steps in planning the implementation of AIT the Tier 1 network.

## BACKGROUND

The innovation function within the Strategic Development Group has undertaken enquiry over the last 12 months into the use of Advanced Imaging Technology (Body Scanners). This is part of Avsec's development of people screening and concealed threat detection capability.

Primary activity has included:

- Research into Body Scanning Technology and global deployment
- Liaison with Manufacturers and suppliers of Body Scanning equipment to understand technology capabilities and developments
- Liaison with international bodies and advisory groups on the use of Body Scanners and various deployment
- Live (in airport) environment trial to understand operational impacts of deployment
- Identification and documentation of considerations to be made in investment in and deployment across Tier 1 airport.

[REDACTED]

Tis deployed in airports globally and international practice and emerging product development show this type of technology will become increasingly common. There is push from global bodies such as IATA and ACI as part of their recommended Smart Security Programme to develop screening technologies and methods that are quicker, more convenient, focussed on deliberate intervention.

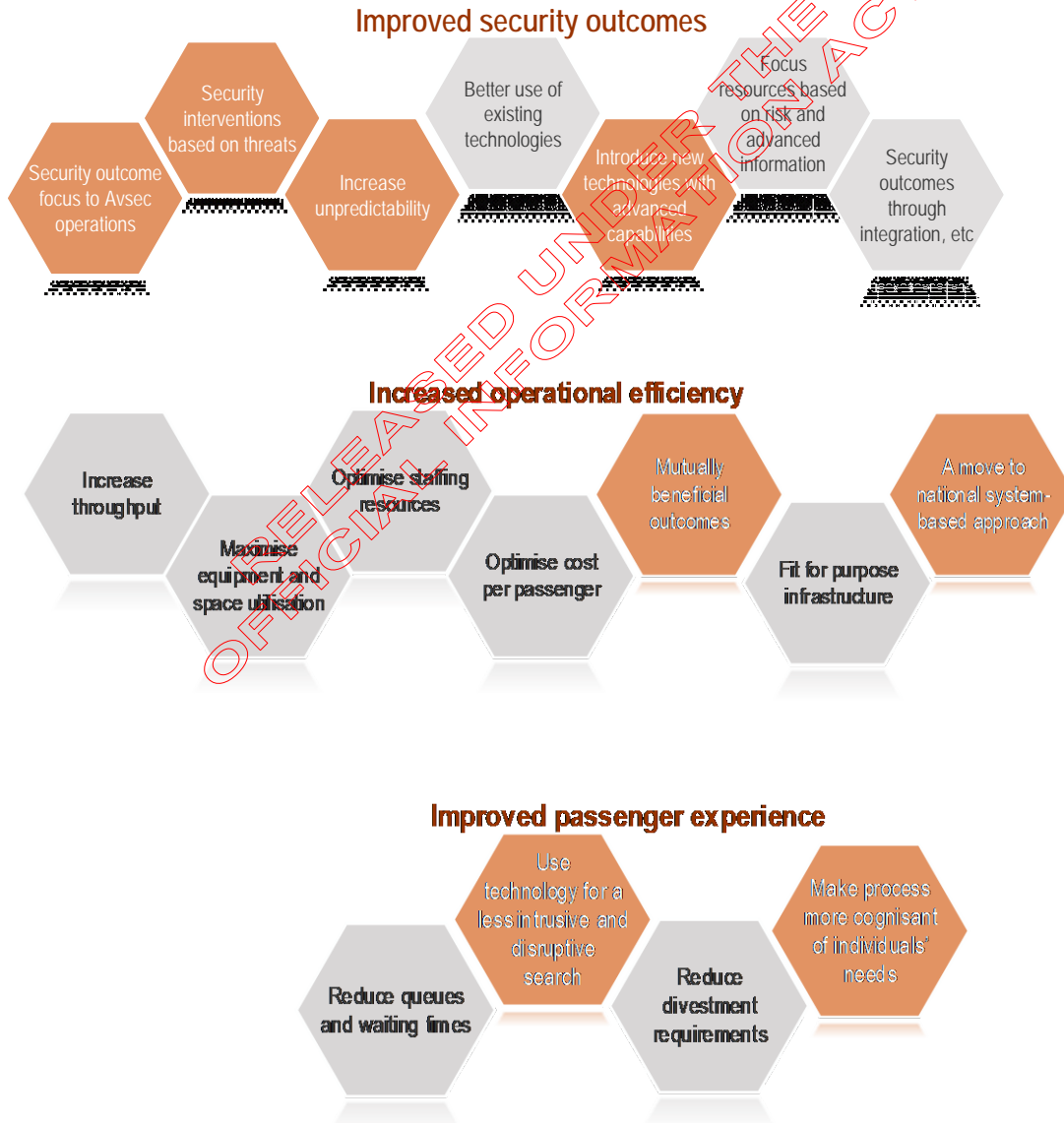


. The exploration of this technology does not diminish the importance of using walk through metal detectors but adds to the overall suite of complementary systems and practices that we understand as Smart Security.

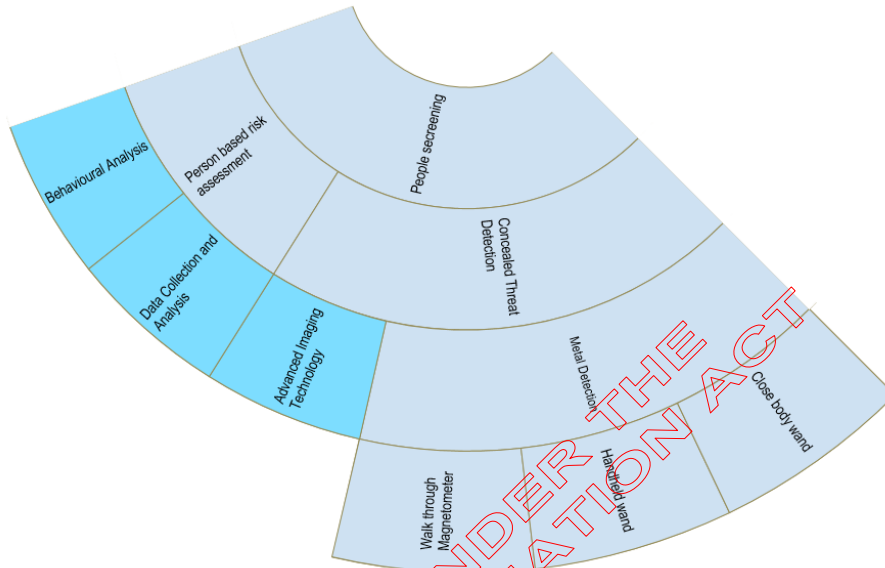
### FOCUS AREA 8 SMART SECURITY AND STRATEGIC ALIGNMENT

Avsec is working to deliver Focus Area 8; Smart Security. This focus area seeks to improve security outcome, enhance passenger facilitation and optimise utilisation of equipment and staff and supports us meeting the dynamic threat environment, building resilience in the system, keeping up with global trends and ensure that New Zealand continues to be seen as an attractive and safe travel destination.

The three outcomes sought under Focus Area 8 are shown below, the orange tiles highlight how AIT can contribute to the delivery of these.



Critical stakeholders (including regulators) data, intelligence, international best practice and vendors have all been engaged to advise on our people screening concealed threat detection current state capability. This is documented within the organisation's Capability Development Plans (CDP). The CDP now states Avsec's current and future requirements, processes, tools and equipment, skills and behaviours, and organisation in relation to Body Scanner implementation.



The recent AIT Trial to assess the operational impacts of deploying AIT have provided a rich evidence base of credible findings against the following hypotheses.

- A. Security scanners will improve end to end processing time
- B. Staff are willing, able and engaged to uptake the technology
- C. An increase in staff numbers will be required in deploying AIT
- D. Close body wanding can be replaced by Security Scanners
- E. Passengers will report the same levels of satisfaction through WTMD as the Security Scanner

Recent events have also accelerated the appetite for the introduction of this type of technology, which has led to a direction to implement AIT in Auckland within the next 18 months.

We are now at a stage to describe impacts of implementation and indicate options for and next steps in planning the implementation of AIT the Tier 1 network.


**HIGH LEVEL IMPACTS AND CONSIDERATIONS – NOTED FROM AIT TRIAL**

Security scanners will improve end-to-end processing time – Refuted. End to end processing was slower.			
Factors to consider	Key findings from Trial	Implications for deployment	How these may be addressed or resolved by the implementation Project (included in scope)
Divestment	<p>A longer time was spent divesting</p> <p>Trial 1 showed end to end processing 82% slower than baseline</p> <p>Trial 2 showed end to end processing 87% slower than baseline</p> <p>Time taken by passengers to divest across trial 1 and 2 was 5.9 seconds slower than baseline</p> <p>Time taken by passengers to divest in the full divest trial was 36.9 seconds slower than baseline</p> <p>[REDACTED]</p> <p>The constructed scanner process would screen 156 passengers per lane per hour</p>	<p>Potential for ‘slowing down’ of the whole system and impacting throughput</p> <p>Consistent evidence shows end-to-end process as slower. A deconstructed view of this identified divestment as the primary reason for this</p> <p>Passengers were asked to divest themselves of more items than the current baseline process in order to minimise the number of unnecessary alarms</p> <p>Divestment requirement for AIT was inconsistently met</p> <p>Avsec has determined an optimal screening figure of 270 per hour per lane</p>	<p>Throughput (number of passengers concurrently processing) maintenance by retaining the WTMD</p> <p>The least impact on throughput would be to deploy AIT scanners in parallel with the current WTMD. In theory, leaving the WTMD process to continue unimpeded at close to 270 passengers per hour per lane. Further investigation into use of AIT in parallel with WTMD will also be undertaken.</p> <p>Parallel divestment area created to support throughput</p> <p>Plan to introduce improved divestment areas</p> <p>Adherence to current divestment requirements to be met across the network</p> <p>Training and procedural adherence re divestment is critical</p>

Queue Management	Volunteers in the full divest trial experienced [REDACTED] when compared with other trial participants	Queue combing and f2f interaction with pax meant passengers were well prepared because they had received specific instruction  [REDACTED]	Introduce role of queue combing to ensure pax are prepared whilst queuing (as they are with LAGS)  Provide communications material and signage to passengers on divestment requirements
Targeted Resolution	Resolution for a security scanner alarm across all trials was 44% faster than the baseline WTMD alarm resolution	Targeting the resolution will bring time efficiencies  Targeted pat down (with close body wand applied in breast and groin areas) was effective  The technology provides efficiency due to specific location of concealment being identified	Confirm targeted pat down as the only resolution technique  [REDACTED]

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Staff are willing, able and engaged to uptake the technology – Evidence supports this hypothesis			
Factors to consider	Key findings from Trial	Implications for deployment	How these may be addressed or resolved by the implementation Project (included in scope)
Change Management	94% of staff viewed the AIT process positively when compared with our current process	Enthusiasm for the technology exists and little change resistance is anticipated in regards to staff accepting and using the technology	
Knowledge of system vulnerability	87% of respondents believe that there are advantages to AIT approach	[REDACTED]	
	65% of respondents believed that there are disadvantages to the AIT approach		Staff commentary was focussed [REDACTED] [REDACTED] It will be important for staff to have the opportunity to 'play' and explore this during training as was the case for the Trial.
Operation of the Technology	100% of respondent felt that the AIT process was either easy or very easy to operate  Trial 1 and Trial 2 experience of operating overall, the positive responses outweighed the negative 66% to 34% or approximately 2 to 1	Training was sufficient  The equipment does not pose any specific operator challenges  No specialist operator is required  The parameters of the technology [REDACTED] were understood through training and supported the operation of the equipment	Training provided to ensure trial delivery can be replicated as the training model for learning the operation of the equipment  Training the Trainers would be the model deployed for implementation

Customer satisfaction	91% of staff respondents felt that customers found the process either easy or very easy	Staff are in tune with feedback provided by passengers	During the embedding in Service of AIT, there may be ongoing opportunity to survey staff on passenger response to inform the skills required for the business changes brought about by AIT
Line of sight to future direction of Avsec	96% of respondents either agreed or strongly agreed that AIT is good for New Zealand	Line of sight between where Avsec is going with Future 2022 and beyond is clear  AIT is seen as part of the journey to a smarter security system  	

<b>An increase in staff numbers will be required in deploying AIT – Not concluded</b>			
<b>Factors to consider</b>	<b>Key findings from Trial</b>	<b>Implications for deployment</b>	<b>How these may be addressed or resolved by the implementation Project (included in scope)</b>
Numbers	Rostering indicated the requirement for additional staff on the lane for the operation of the equipment	If AIT scanners were deployed with the same CONOPS as the trial then this would undoubtedly lead to an increase in staff positions on a lane	Further assessment is needed to fully comprehend the ramifications of this hypothesis when a finalised CONOPS is developed
Roles	End to End Processing will be slower with the introduction of AIT	Queue combing role will be required to manage impact of divestment	Work on Queue Management 2017 (not related to the AIT trial) should be reviewed as this may inform options for queue management


[REDACTED]			
Factors to consider	Key findings from Trial	Implications for deployment	How these may be addressed or resolved by the implementation Project (included in scope)
Regulation	[REDACTED]	[REDACTED]	Evidence can be provided to the Regulator in order to support such a recommendation

**Passengers will report the same levels of satisfaction through WTMD as the Security Scanner- Proven (exceeded)** Positive responses outweighed the negative by 4:1

Factors to consider	Key findings from Trial	Implications for deployment	How these may be addressed or resolved by the implementation Project (included in scope)
Domestic Travellers	Passengers (who were all travelling domestically) saw the AIT technology as preferable to the current system	Likely increase in political appetite Awareness exists with the public of why this technology is used	Reassurance can be provide to stakeholders the public will likely be positive and willing to uptake the technology
Privacy and Health and Safety	Commentary from passenger included that the process was 'more transparent' and 'less invasive'	Privacy Commissioner's comment on this technology providing a potential 'privacy advantage' against the current process is supported by feedback from passengers	Passenger comms directly tackled legacy concerns on H and S and Privacy – these should remain in place to meet expectations of airlines and privacy commissioner



**IMPACTS AND CONSIDERATIONS – NOTED FROM CAPABILITY DEVELOPMENT PROGRAMME**

Considerations/impacts	Indicative weight to be given to area (Areas of most work/ impact/ consideration )					Notes
Legislation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Legislative enabler for the use of AIT/ Body Scanning equipment is provided for within primary legislation
Standards	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Regulator would need to approve that Close Body Wanding is replaced by AIT Detection Capability Equipment assessed would need to meet appropriate ECAC Standard2
Time	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Given Avsec's activity in the 17/18 year, we are now at pace with international deployment and best practice in regards to on person concealed threat detection.  The Director has requested the implementation of AIT in Auckland by December 2018. This timeframe determines the start of the implementation sequence across the Tier 1 network. It is anticipated implementation will then occur sequentially under a Screening Point Advancement and Modernisation Programme of 2-5 years.
Funding	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	
People	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	Soft skills of Customer Service, Queue management will need to be available.

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(b)(ii), (i) and 9(2)(j)

Considerations/impacts	Indicative weight to be given to area (Areas of most work/ impact/ consideration )					Notes
						<p>Strong supervisory skills for application of pat downs and procedural adherence</p> <p>Additional staff will be required</p>
Information/ ConOps/ Process	●	●	○	○	○	<p>A CONOPS was developed for the delivery of the Trial, this is in line with common international practice for the deployment of AIT [REDACTED]</p>
Technology	●	●	●	○	○	<p>Specific capability is now identified and specific performance requirements will be assessed through the RFP process. There are a range of suppliers and products on the market which are well known, commonly deployed and meet certifications – an approach to open market will be undertaken to ensure access the full range of products available.</p> <p>[REDACTED]</p>
Infrastructure	●	●	●	○	○	<p>Core considerations are:</p> <ul style="list-style-type: none"> <li>Enabling sufficient space within a 1 AIT to 2 Lanes laydown whilst maintaining flow</li> <li>Early detailed planning to ensure smart lane lay downs are fully cognisant of AIT and positioning of WTMD</li> <li>Early work with Airports to ensure they deliver appropriate infrastructure in terms of level floors, continuous power source etc</li> <li>There may be instances where current lane laydown will need to be adjusted to accommodate AIT, this may include moving critical infrastructure or renegotiation of space/ lease</li> </ul>

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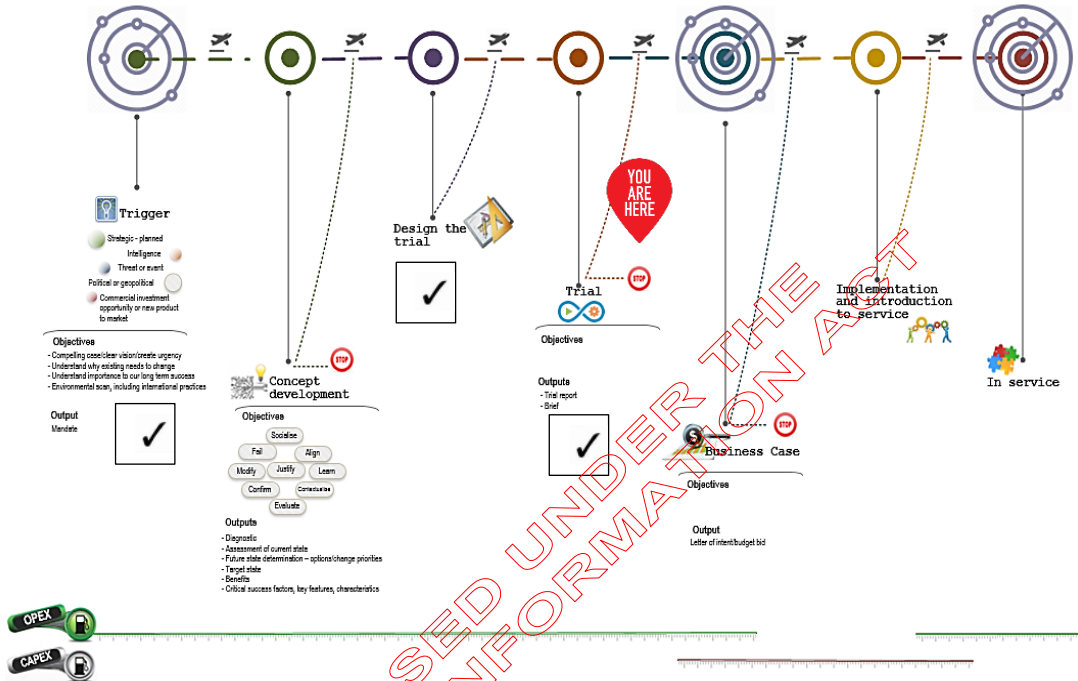
Considerations/impacts	Indicative weight to be given to area (Areas of most work/ impact/ consideration )					Notes
Support Services	●	●	○	○	○	<p>Demand on the procurement team will be made during the RFP process this will occur during Q4.</p> <p>There will be demand on the Facilities and Communications functions in preparing the business case and during implementation. Specific resource requirements will be identified through business planning processes currently underway.</p> <p>It is anticipated that efficiencies in resource demand will be achieved if an overall Screening Point Advancement and modernisation Programme is put together</p>
Communication	●	●	●	○	○	<p>In addition to trial findings regarding passenger communications it will be critical to engage with Airport planning teams at all T1 airports.</p>
Stakeholders	●	●	●	●	○	<p>Stakeholders identification and management is not anticipated to present challenges</p>

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## INVESTMENT APPROACH

In August 2016, we presented you with a sequential pathway for future technology investments

Investment approach updated 18 October 2016



Using this method the following have been achieved:

- Environmental scan (light touch) to determine drivers for AIT.
- Documented Terms of Reference and Trial design in line with good practice
- Trial Delivery (3 formats)

Information withheld under section (9)(2)(i) of the Official Information Act 1982

### CAPITAL INVESTMENT

### OPERATING COSTS

- Procurement advice and support provided by Consultant -part time as required approx. 20 days @ \$1500/day = \$30,000
- Business Case support by Business Analyst 5 months (110 days) @\$1200/day = \$132,000
- Additional cost for travel and subsistence for RFP reviewers = \$3,000

Operational Cost for the creation of the Business Case (2-stage Business case required as Approval-in-Principle needs to be provided before an RFP can be initiated) including Request for Proposals and Evaluation activity is estimated at **\$165,000.**

Other non-capitalisable project costs (training, project initiation and close-out) are tentatively estimated at **\$160,000**.

## RECOMMENDED IMPLEMENTATION APPROACH

On the following Assumptions:

- A first deployment in AKL would be representative of the format for deployment across the network.
- Deployment would be within the International screening context only (with a view to Domestic later on as a new decision to the Board)

- The order of implementation is AKL, ChCh, Wgn then potentially ZQN and DUD

With the exception of Auckland International (that already has Smart Lane implementation due for completion 2017 and will implement AIT within 18 months). At this stage the recommended approach will be to combine an AIT implementation across the Tier 1 network in tandem with a Smart Lane implementation by creating an umbrella Programme of Screening Point Advancement and Modernisation. The viability of this is to be assessed as the Business Case is developed.

Anticipated benefits of this would be:

- Impact on the business and resources to deliver can be managed more effectively and the programme can prioritise the use of these resources to maximise the benefit for the programme
- Innovation and improvement activity can have a streamlined communication route to senior management and more effective governance
- More effective configuration management between activity means that when specification on one implementation changes then the impact of this change has to be understood for the other activity in the programme.
- Risk -common risks are better managed a
- Uplift in screening capability as a whole delivered in a co-ordinated way provides the Authority a better position to

## NEXT STEPS

To date work has been funded from Strategic Development Group operational baseline (funding line not specified). Subject to your agreement, in line with the agreed Investment Approach the work will commence on a Request for Proposal to open market which will enable specific technologies to be identified and more detailed costing to occur. Concurrently Strategic Development Group will lead the delivery of a Business Case and present the strategic, management, cost, benefit considerations at the end of Q4 2017/18 FY.

## RECOMMENDATION

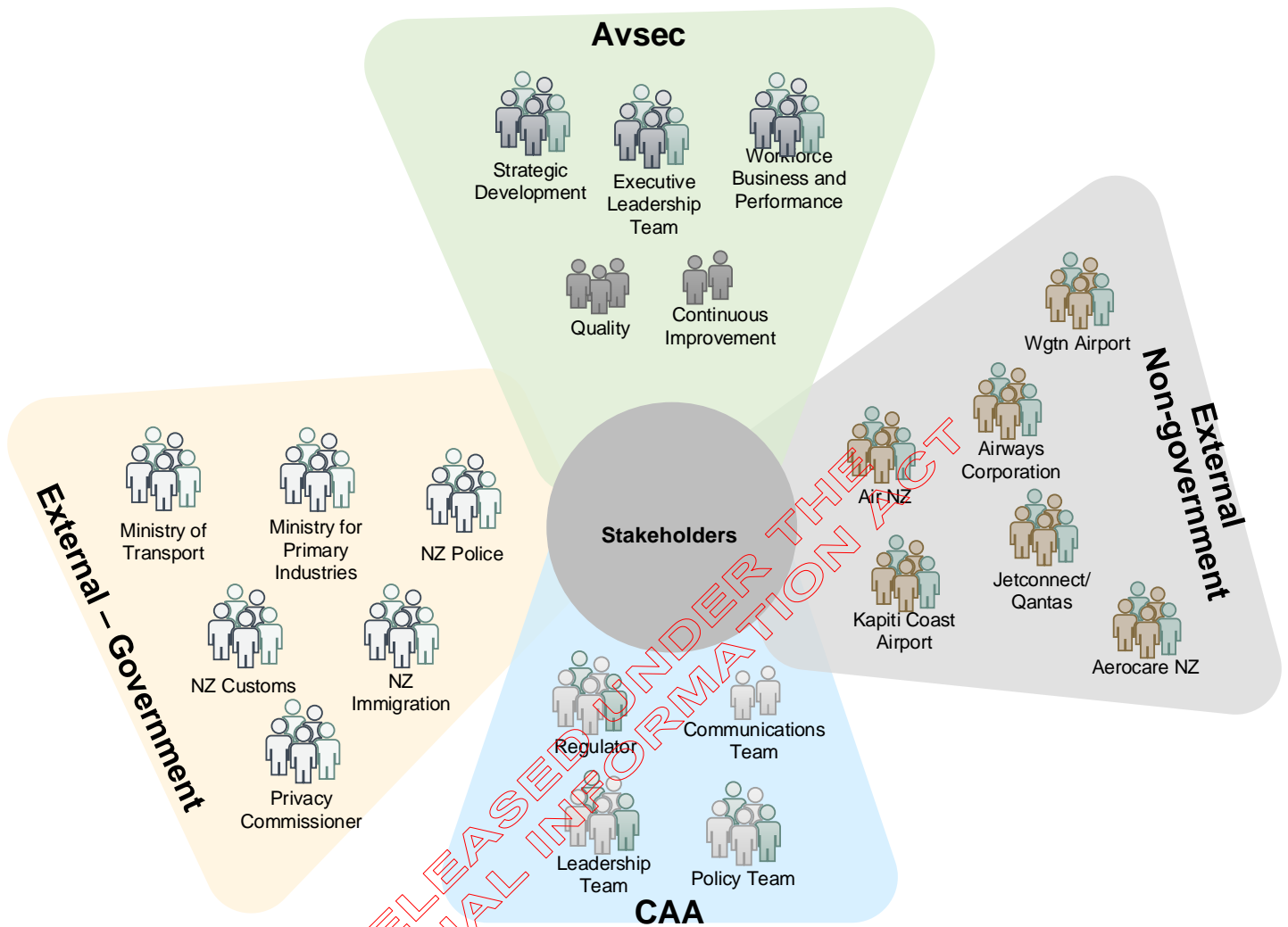
It is recommended that the ELT:

- (a) **Note:** The work undertaken to date across the Authority in the development of people screening capability
- (b) **Note:** Capital funding has been provisioned for this Investment and will be profiled in accordance with the recommended option as part of the Business Case
- (c) **Note:** The Minister, although aware of AIT activity is not yet advised of this recommendation
- (d) **Approve:** Funding to be moved from the Avsec baseline to the Strategic Development Group baseline to support the RFP to open market as identified in this paper.
- (e) **Approve:** Funding to be moved from the Avsec baseline to the Strategic Development Group baseline to support the commencement of a Business Case as identified in this paper.
- (f) **Approve** the submission of a paper to the Board in November to advise of Avsec's intention to go to open market for Requests for Proposals through government procurement rules to inform the Business Case

Ben Smith  
Group Manager Strategic Development

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Annex 1: Stakeholder Engagement



Ministerial interest and briefing and work with the Privacy Commissioner

- Ministerial briefing dated 13 February 2017
- Ministerial briefing dated 15 June 2017
- Letter to Privacy Commissioner dated 9 June 2017; response from Privacy Commissioner dated 28 June 2017
- Letter from Privacy Commissioner’s office dated 27 July 2017

**DATE OF MEETING:** 03 MAY 2018

**AGENDA ITEM:** ADVANCED IMAGING TECHNOLOGY IMPLEMENTATION

**AGENDA ITEM NO:** XX

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## PURPOSE OF REPORT

To seek the Board's endorsement for the business case for the procurement of Advanced Imaging Technology (AIT) equipment.

## BACKGROUND

The Director wrote to the General Manager Avsec in January 2018, regarding 'Security requirements for Civil Aviation Act and Rule Part 140 continued compliance purposes'. The Director stated that it was his expectation "that Avsec will incrementally roll out Advanced Imaging Technology (AIT) over the period 2018–2022 at all international screening points, and that its exposition will be changed to reflect this development".

The Director went on to outline his expectation that "in deploying AIT from 2018, Avsec will prioritise high volume airports starting with Auckland in 2018, and will have this in place at all international screening points at Auckland by 30 June 2019, at the latest. But that in any event AIT will be deployed at all international airport screening points by 31 December 2020."

An updating paper was submitted to the Board Meeting of 18 April 2018, noting that business case for the procurement of AIT equipment would come to the Board for endorsement in late April/early May 2018.

## CURRENT ACTIVITY

To meet the implementation of AIT timeframes, Avsec has prepared the procurement business case for AIT equipment. It is estimated that the capital cost for the full equipment procurement will be [REDACTED]

The Authority is currently working with Treasury and the Ministry of Transport on proposals to provide for Avsec's overall future capital funding needs. This work will include funding for the remainder of the proposed AIT equipment requirement (circa [REDACTED] in FY 19/20), and will be accounted for in Avsec's current funding review proposals.

Content on this page withheld under sections 9(2)(b)(ii), 9(2)(i) and 9(2)(j)



## PLAN AND FUTURE TIMELINE

The AIT business case includes proposals for both procurement and project implementation, although the specific purchase contract will be split into several phases to reflect the availability of capital funds. To meet Auckland implementation timeframes, procurement and contracting activity will need to commence in May 2018. Following Board endorsement of the initial business case, Avsec will proceed to a formal tender process, in accordance with Government procurement guidelines. It is expected that vendor selection will be completed by mid-July 2018, followed by completion of contract negotiations by the end of August 2018.

Avsec is still looking to implement AIT alongside further deployments of Smart Lane technology given the intrinsic operational link between AIT and Smart Lanes at a screening point, enabling greater project efficiencies and operating benefits to be gained. Approval to procure and install further smart lanes will be subject to a separate proposal to the Board.

## RECOMMENDATION

It is recommended that the Board:

- a) **Approve** Avsec engaging with the market, under a Request For Tender, to progress the preferred option;
- b) **Endorse** the business case for the procurement of AIT equipment for FY 2018/19 requirements, estimated at [REDACTED] (included in the 2018/19 capital budget);
- c) **Note** the overall costs for AIT remains at circa [REDACTED] but contracting activities for the remaining equipment will not be undertaken until additional capital funds are confirmed. The remaining costs of circa [REDACTED] will appear in the FY 19/20 capital budget;
- d) **Note** Avsec will need to maintain the stated timeline in order to meet the requirement to implement AIT at Auckland International Airport by 30 June 2019; and
- e) **Note** Avsec is developing proposals for funding of its 2019/20 and out-year capital funding needs, including consideration of alternative options such as leasing that will be presented to the Board in May 2018.



Mark Wheeler  
**General Manager**  
**Aviation Security Services**



27 June 2018

## INFORMATION TO SUPPORT OFFICIAL INFORMATION ACT ENQUIRY REGARDING ADVANCED IMAGING TECHNOLOGY

### *Implementation process*

- Under Avsec Exposition, the Director CAA instructed Avsec to have AIT in place at the Auckland International screening point by the 30 June 2019, with deployment to all remaining international screening points by 31 December 2020.
- We undertook a trial of AIT technology in 2017, to ascertain impacts on Avsec, airports and passengers, ahead of any future implementation.
- The rollout of AIT will be undertaken in two separate tranches. Tranche one will be completed in FY 18/19 and tranche two will be completed in FY 19/20. The implementation schedule will be confirmed following the completion of the procurement process for each tranche, when manufacture, shipping and installation timeframes are confirmed.
- Business case to purchase 4 AIT units in FY 18/19 approved by Avsec Board in 2018.

### *What will be announced?*

- The outcome of the procurement process will be announced on GETS (the Government Electronic Tendering System), after the engagement of the selected vendor.
- Internal/external announcements regarding the introduction of AIT will be determined during the planning process, and following the completion of the equipment selection process – when more specific information about the equipment and the implementation timeframes are confirmed.

### *What stage this work is currently at?*

- Equipment procurement process has commenced, and is being conducted in accordance with the Government Procurement Guidelines.
- Request for Tender is currently open and closes in mid-July. Vendor selection/equipment recommendation scheduled for completion by mid-August 2018
- Currently in detailed planning process.
- An implementation business case, detailing the approach and schedule for the first tranche is currently being prepared

### *Next steps?*

- Completion of the procurement process
- Contract negotiation with selected vendor
- Detailed project planning completed
- Implementation business case for tranche one approved
- Development of communication and stakeholder engagement plans



*How CAA is addressing privacy concerns would be really helpful, particularly the Privacy Commissioner's involvement?*

- As a specific project work stream and following earlier discussion during the AIT trial, we will re-engage with the Privacy Commissioner during planning process, specifically in regard to how privacy considerations covered during the earlier AIT trial are being reflected in the requirements of the equipment selection process i.e.
  - Non-penetrating x-ray
  - use of generic avatar image,
  - non-identifiable data only retained for process analysis purposes, etc.

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**Excerpts for release under the Official Information Act 1982**

**Australian aviation security announcement, 15 June 2018.**

16. The Director also reviewed the forward operational plan of the Aviation Security Service (Avsec) and reassessed existing timeframes within this for the introduction of new screening equipment. This review indicated that this plan and its timeframes remain fundamentally sound, albeit subject to any developments that may occur in the security environment. The Director did however provide Avsec with more specific targets for the roll-out of new screening equipment including for Advanced Imaging Technology (AIT), also commonly known as body scanners.

*Attachment B: New Zealand Domestic Aviation Security – Key messages and reactive Q & A, 15 June 2018.*

2. Does New Zealand have any plans to roll out body scanners/Advanced Imaging Technology (AIT) equipment? If so, when?

Globally the aviation security system is transitioning to the use of body scanners.

Plans are in place for these to be incrementally introduced at New Zealand airports beginning in 2109 [sic].

These plans can be adjusted to provide for earlier implementation should this be considered necessary at any point.

3. Are you concerned about privacy implications arising from the use of AIT (also known as body scanners)?

No. I am advised that modern AIT do not breach the provisions of the Aviation Crimes Act, specifically the requirements for privacy, because they:

- display threat location on a generic mannequin drawing, not an unclothed image of a person
- display the same mannequin image for all travellers regardless of gender, size or race
- do not store scanned data.

**Letter to incoming Minister, 30 April 2018 (shared with Hon. Genter on 8 June 2018)**

Expenditure on extraordinary items has been required to fund requirements imposed by the Director of Civil Aviation in response to recent, primarily international, security concerns. These include ... the deployment of Advanced Imaging Technology (body scanners) at screening points in Auckland International Terminal by 30 June 2019.

**CAA Briefing to the Incoming Minister – June 2018. Page 15: Security service delivery.**

For example, Avsec is evaluating the potential of advanced imaging technology to improve the efficiency and effectiveness of security screening. Avsec recently trialled new screening technologies at Wellington Airport. Initial results from the trial are positive. Passengers seem happy to be screened using the technology; and throughput appears to be higher compared to existing walk through metal detectors.