How to develop secure human behaviour?

Closing the gap between knowing and doing

11:30 uur - Amsterdam '72

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About BeOne Development

Founded in
1999 as
InfoSecure

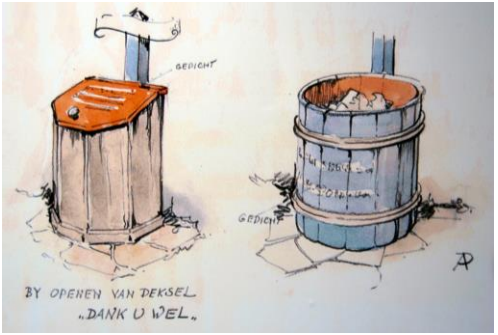
Information Security
&
Privacy

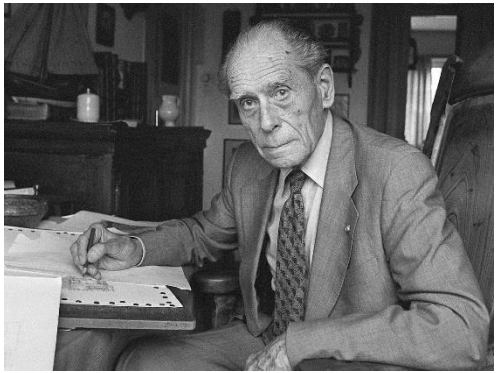
Creating a
positive security
culture

An introduction

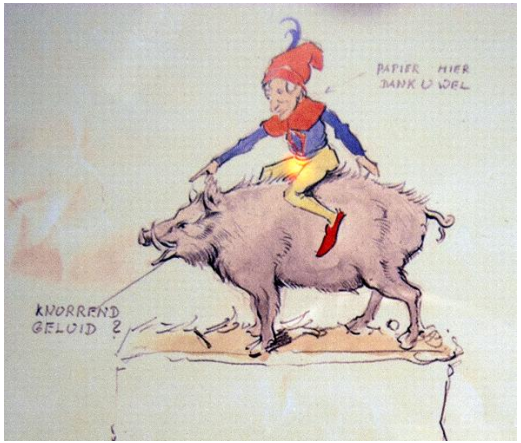
DE EFTELING

papier hier !


GEDICHT
GEDICHT
BY OPENEN VAN DEKSEL
„DANK U WEL"



Holle Bolle Bijs
ANTON PIECK


PAPIER HIER
DANK U WEL
KNORREND
GELUID

Holle Bolle Gijs eats 460.000 kilos of paper a year.
Holle Bolle Gijs has eaten a total of more than 25 million kilos of paper.

Technology, organisation and ….. humans

Almost 90% of Cyber Attacks are Caused by Human Error or Behavior

By **Ross Kelly** - March 3, 2017

Few store managers would respond to revelations that a junior assistant had been stealing from the cash register by investing thousands of dollars in new security cameras. It could be far cheaper for them to instill hiring practices that vet employees and keep the bad ones out.

But all too often CEOs confronted with cyber attacks tend to do the opposite: they fret about possible weaknesses in their technology defenses, rather than taking a hard look at the people in their organization.

The human factor is hot ...
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…. but often ineffective

Research from **Information Security Forum (ISF),** International top 500 companies
www.securityforum.org/research/from-promoting-awareness-to-embedding-behaviours/

- ❑ Insufficient management commitment
- ❑ Not the right skills
- ❑ Approach not risk driven
- ❑ Ad hoc approach
- ❑ Only a tick in a box
- ❑ Approach based on FUD
- ❑ Effectivity is not measured
- ❑ Change is not secured

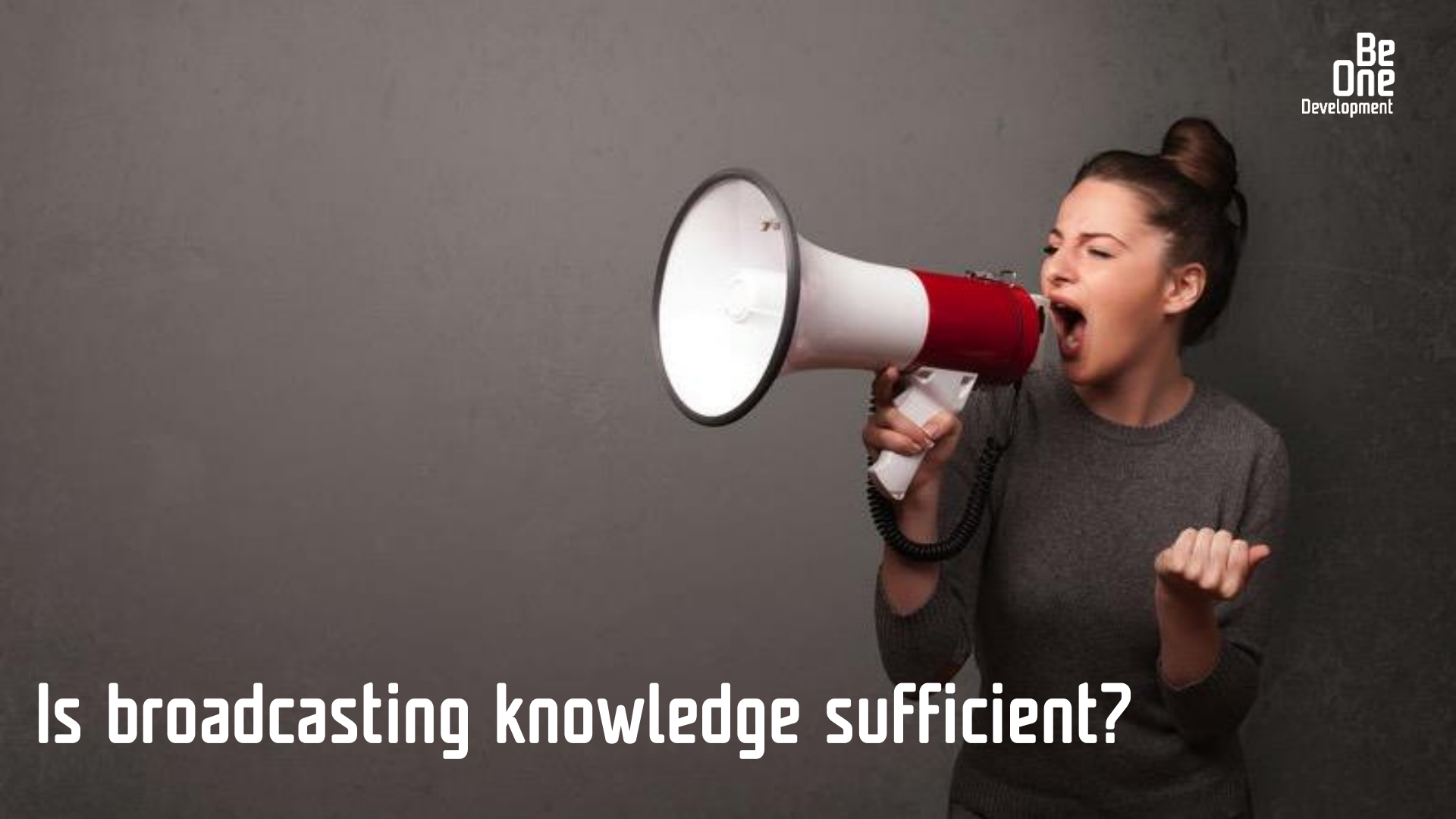
Security Awareness in the past

Why we know, but don't do

Source: Tali Sharot, 'The optimism bias'

Security awareness is a process

- ✓ Involve management
- ✓ Organise the right project team
- ✓ On-boarding for new employees
- ✓ Information security fundamentals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Is broadcasting knowledge sufficient?

Behavioural change

Source: M.F.K. Balm, 'Behavioural change model'

Confrontation by testing

Moving with pleasure
and
Freezing with Fear

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Start with making an
emotional connection

Port of Amsterdam
ESCAPEROOM
Cyber Security
BeOne Infosecure
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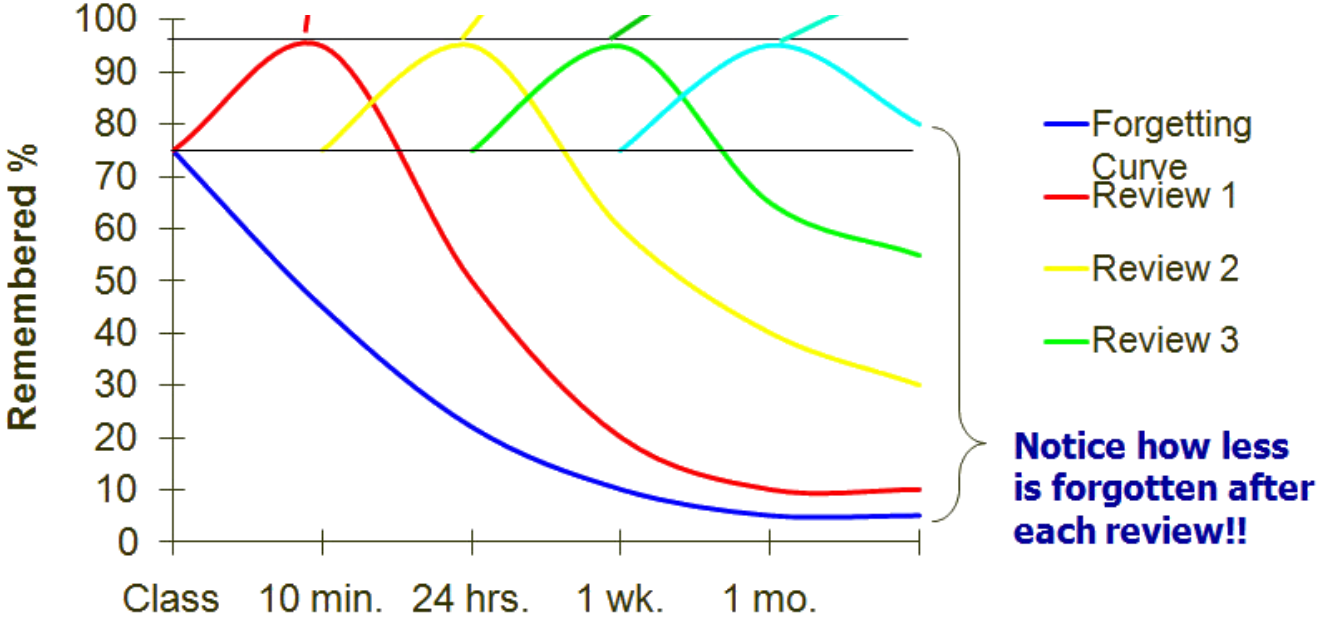
ESC2

Ebbinghaus forgetting curve



Learning piramid & retentie

Using a blend of approaches results in a substantial increase in knowledge retention

Source: Institute for Applied Behaviour Sciences

Is warning sufficient?

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Add confrontation and immediate feedback

From knowing to doing

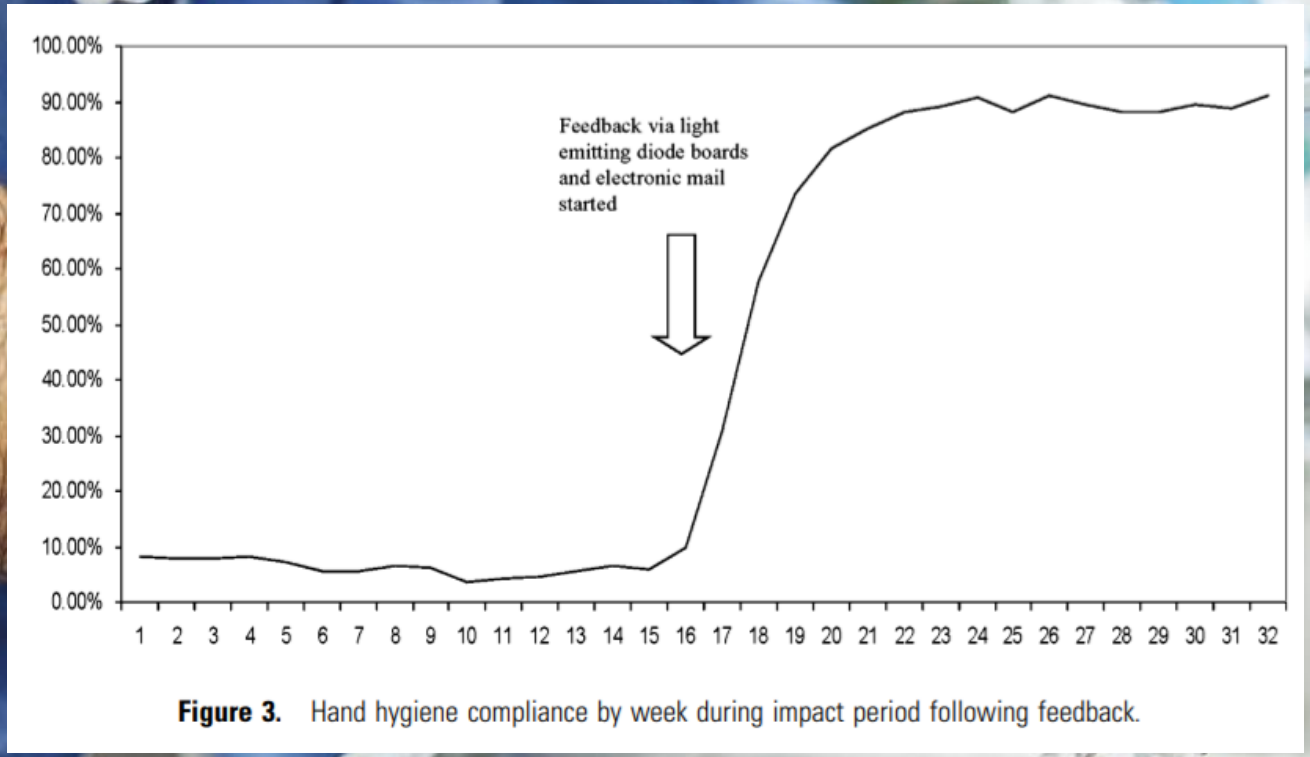

Figure 3. Hand hygiene compliance by week during impact period following feedback.

Source: Donna Armellino, “Using High-Technology to Enforce Low-Technology Safety Measures”

Normative beliefs

Please reuse your towels to safe money	15%
Help safe the environment. You can show your respect for nature and help save the environment by reusing your towels during your stay	30%
75% of the hotel guests reused the towels	45%
75% of the guests who also stayed in this room reused the towels	50%

Goldstein, N.J., Griskevicius, V., & Cialdini, R.B. (2007). Invoking Social Norms. A social psychology perspective on improving hotels' linen-re-use programs. *Cornell Hospitality Quarterly*

Normative beliefs

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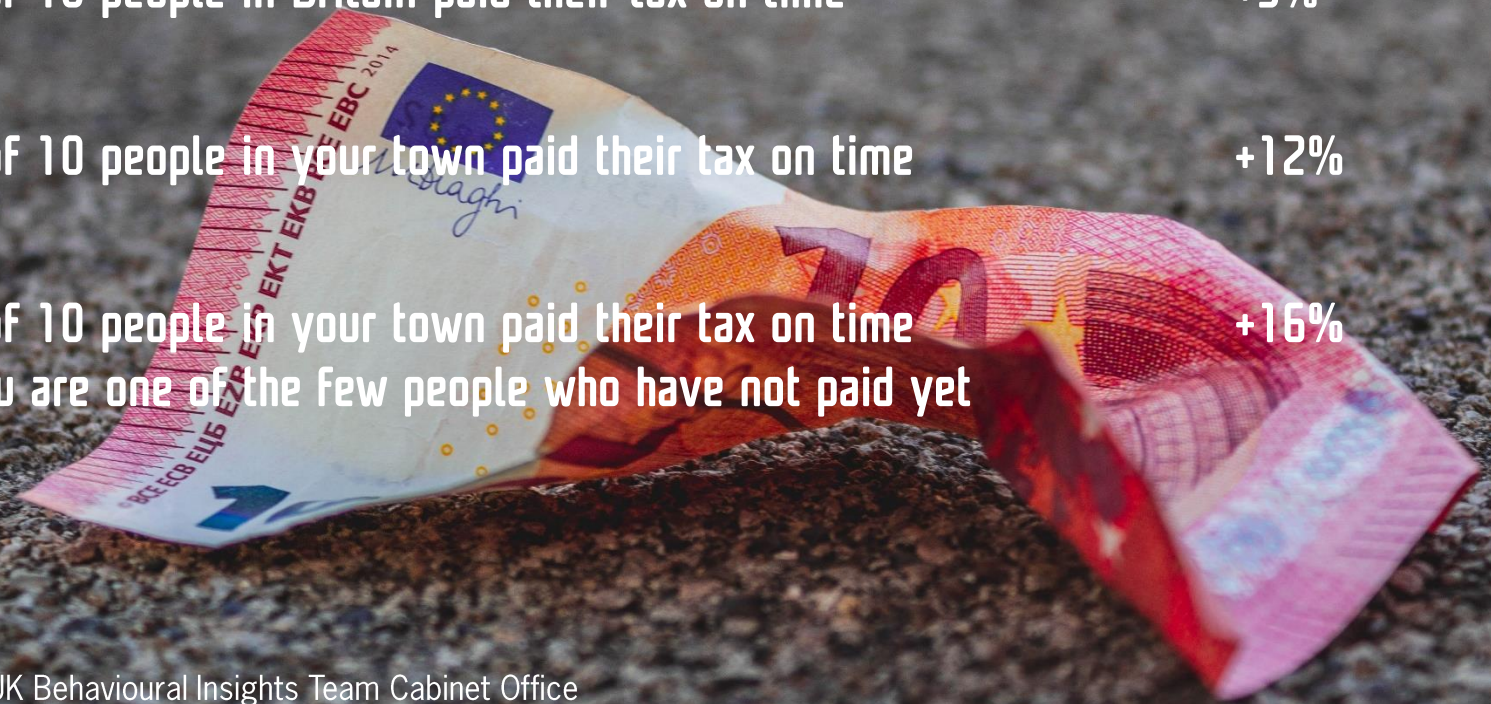
9 out of 10 people in Britain paid their tax on time	+5%
9 out of 10 people in your town paid their tax on time	+12%
9 out of 10 people in your town paid their tax on time and you are one of the few people who have not paid yet	+16%



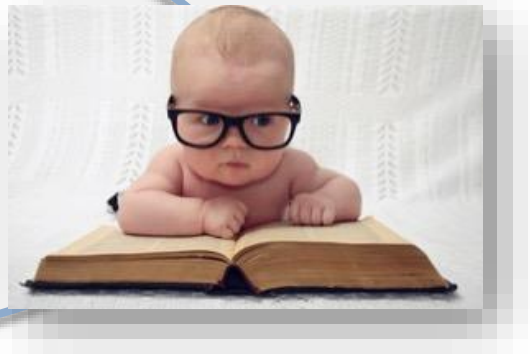
Source: UK Behavioural Insights Team Cabinet Office

PDCA approach: immediate feedback with awareness dashboard

Simulate & test

Monitor

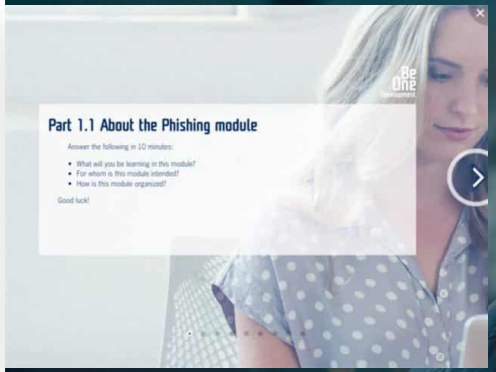
Report compliance and offer feedback



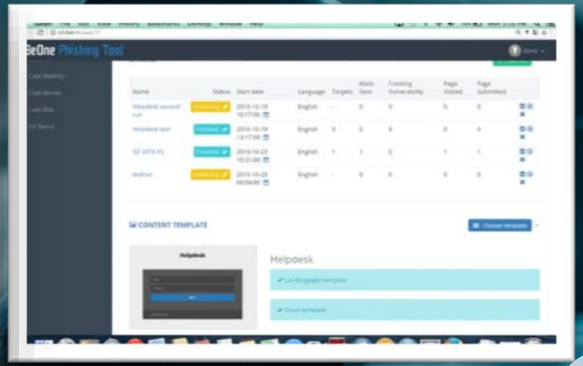
Knowledge & skills

Use a risk based approach

Theme: phishing



Knowledge



Test

Skills

Feedback

Repeat

Theme: strong passwords

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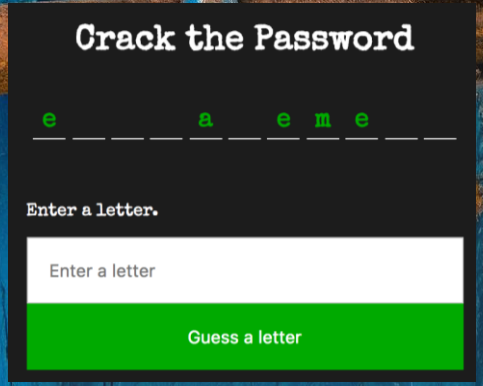

Theme: social engineering

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Theme: USB sticks

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Theme: cloud services

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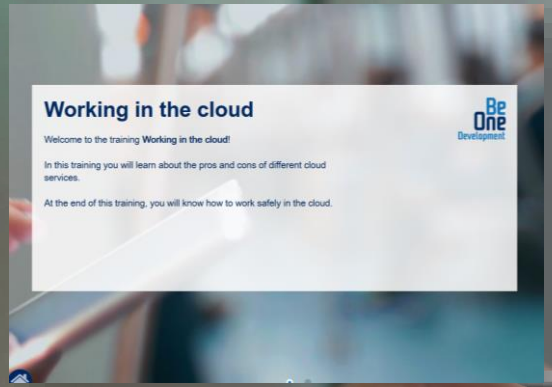
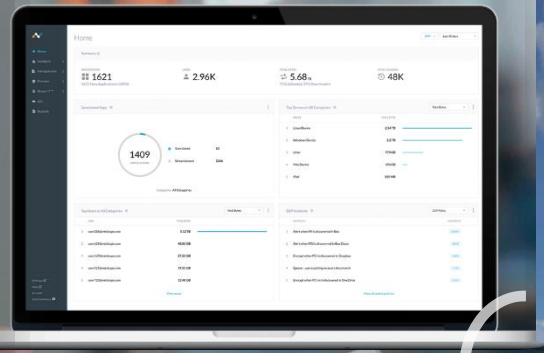




Develop a continuous multi channel communication program

Strong Passwords

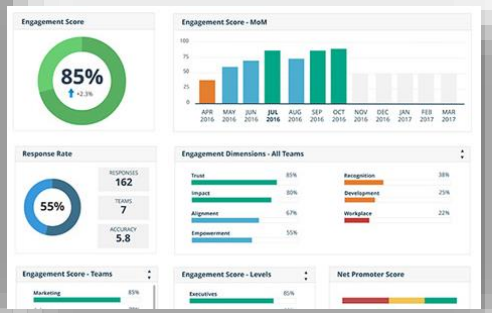
The New Way of Working

Use of Passwords

Work Securely Outside the Office

Working in Public Places

Working in the Cloud



Test & confrontation

Inform, knowledge & skills

Report compliance

Take aways to create a positive security culture

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1. Develop a long term communication program
2. Measure behaviour & confrontation
3. Train knowledge & skills continuously
4. Give direct feedback & show behavioural compliance

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Questions?

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