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Lenovo

運用人工智慧
管控企業員工工作環境

數位資安 蘇隄(JULIAN SU)

企業為何需要管控遠距工作環境?

- Work-from-Home / Work-from-Anywhere已永久擴大了企業資訊安全的防衛圈
  - 每一個遠距辦公地點都是機敏資料(信用卡/社群/客戶資訊/商業機密)外洩的潛在熱點

Brian Kopp, VP, Gartner:
"從疫情開始迄今, 美國三分之一的中大型企業已開始導入某些形式的員工監控系統"

華爾街日報 9/18/2022

sweeping through U.S. companies over the past 2½ years. Since the start of the pandemic, one in three medium-to-large U.S. companies has adopted some kind of worker surveillance system, and the total fraction using such systems is now two in three, says Brian Kropp, vice president of HR research at Gartner. While there is a broad spectrum of how these

遠距工作的趨勢與其所帶來的後遺症

Permanent

50%

Work from Home

Gartner

Sensitive Data Misuse

$11k per instance

Productivity Losses

10-15% is normal

Compliance Violations

Jeopardizes business continuity

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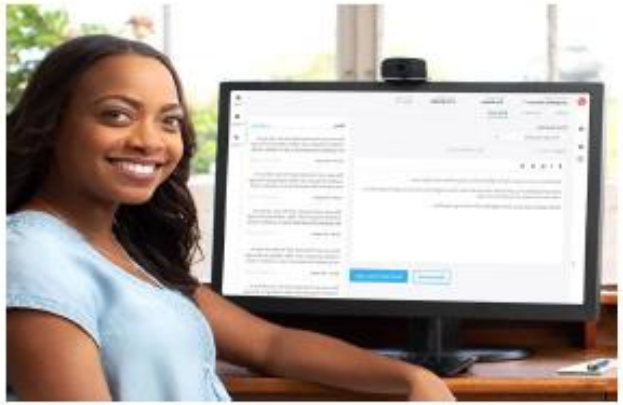
企業為何需要管控員工工作環境?

CYBER CRIME IS A HIDDEN THREAT

30%

Internal Bad Actors



https://www.verizon.com/business/resources/reports/dbir/

傳三星晶片廠員工用手機翻拍螢幕，3nm與5nm晶片製程機密資料外流

cnBeta 發表於 2022年3月31日 16:00 | 收藏此文

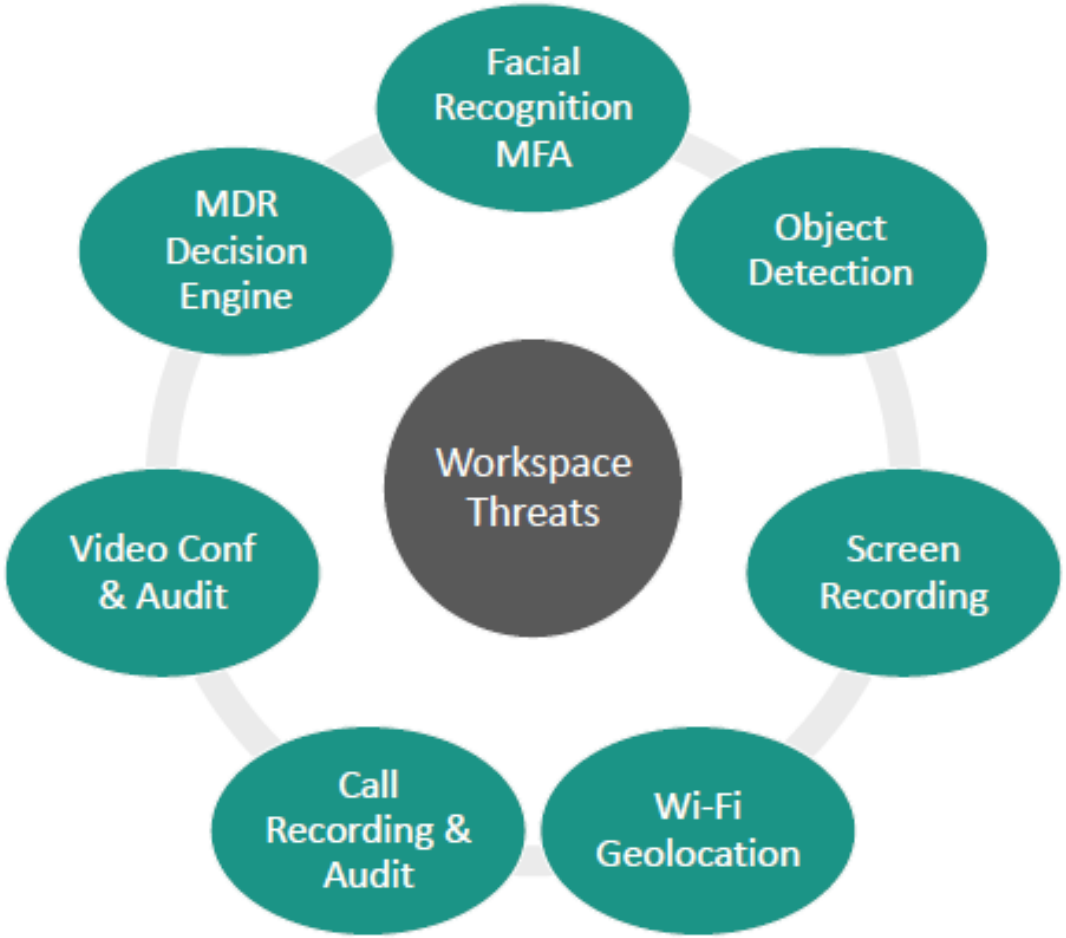
讚 3,521

資安防禦鍊裡最弱的環節

The Missing Link of Zero Trust Environment

Achieving True Zero Trust with TrendzAct

TRENDZACT CONTINUOUSLY MONITORS – DETECTS – RESPONDS



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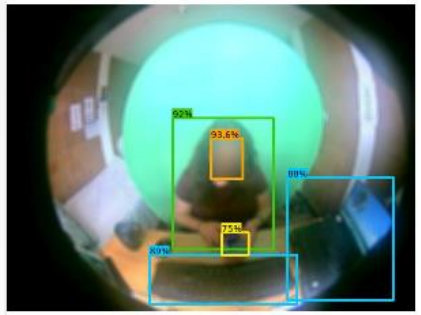
工作環境的身分與物件識別

- ✓ Identity Verification - Orange
- ✓ One Person - Green
- ✓ Two+ Persons - Red
- ✓ Cell Phone - Yellow
- ✓ Keyboard/Laptop – Light Blue
- ✓ Paper/Book – Purple
- ✓ Images blurred post AI-scans



10 10

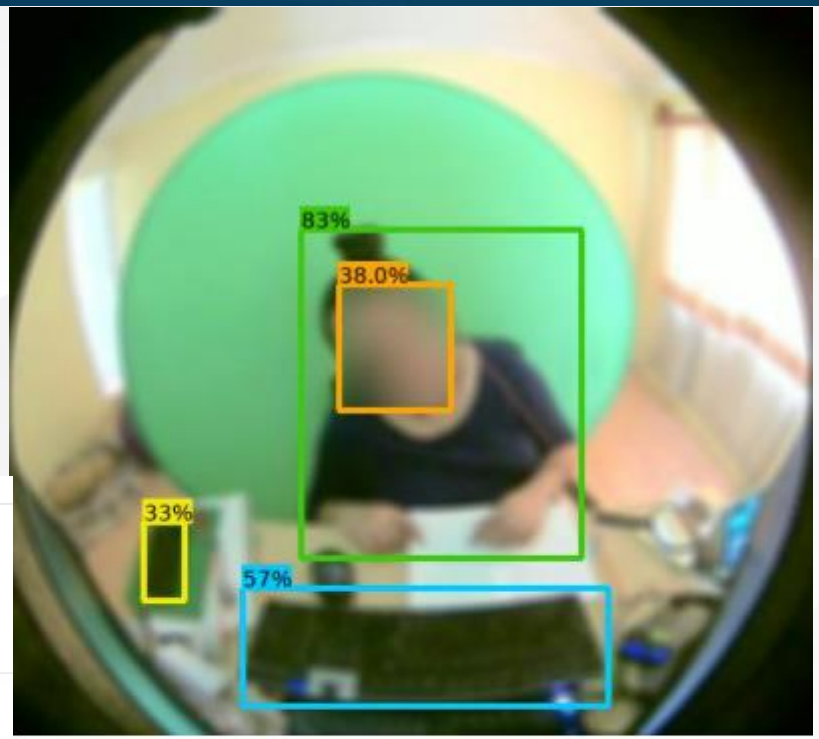
Refresh period time

1 seconds

Maria Barbosa (T-0001) - maria@trendzact.com
Date - 04-12-2022 15:26
Flagged - Yes
Image Quality OK- Yes
Face Detected OK - Yes

Detections
Identity - 93%
Person - 92%
Keyboard - 89%
Keyboard - 88%
Cell Phone - 75%
CellPhone Zone X - No
CellPhone Zone 1 - No
CellPhone Zone 2 - No
CellPhone Zone 3 - Yes

Reference
Captured by WinApp - 04-12-2022 15:26
Transferred to S3 - 04-12-2022 15:26 (UTC)
Scanned by WSAD - /04-12-2022-20-27/success.trendzact.net (UTC)



Flagged - Yes
Image Quality OK- Yes
Face Detected OK - Yes

Detections
Identity - 38%
Person - 83%
Keyboard - 57%
Cell Phone - 33%
CellPhone Zone X - Yes
CellPhone Zone 1 - No
CellPhone Zone 2 - No
CellPhone Zone 3 - No

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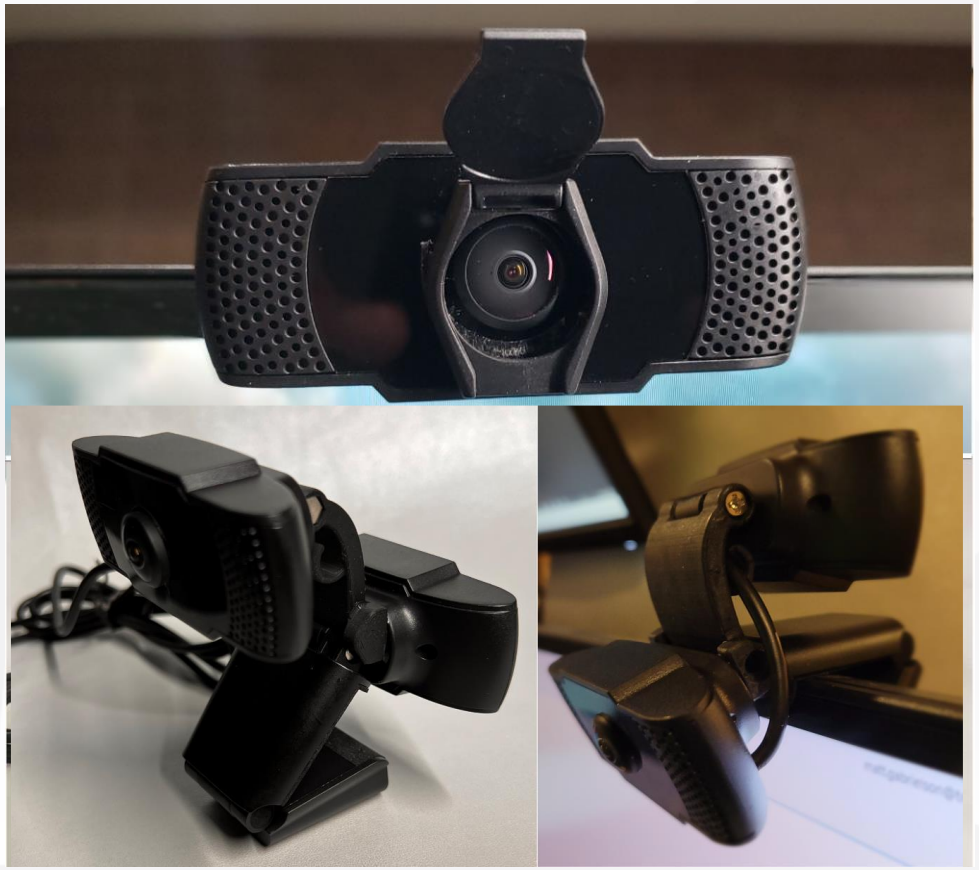
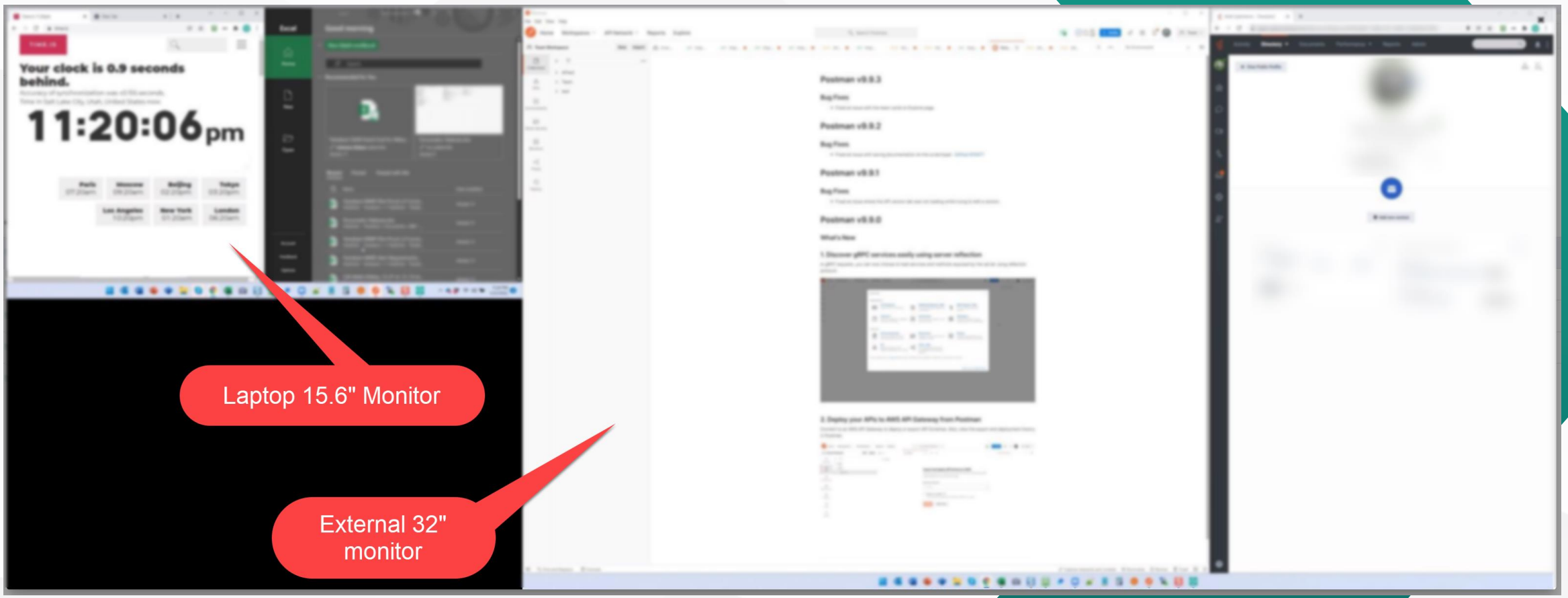
廣視角鏡頭WEBCAM

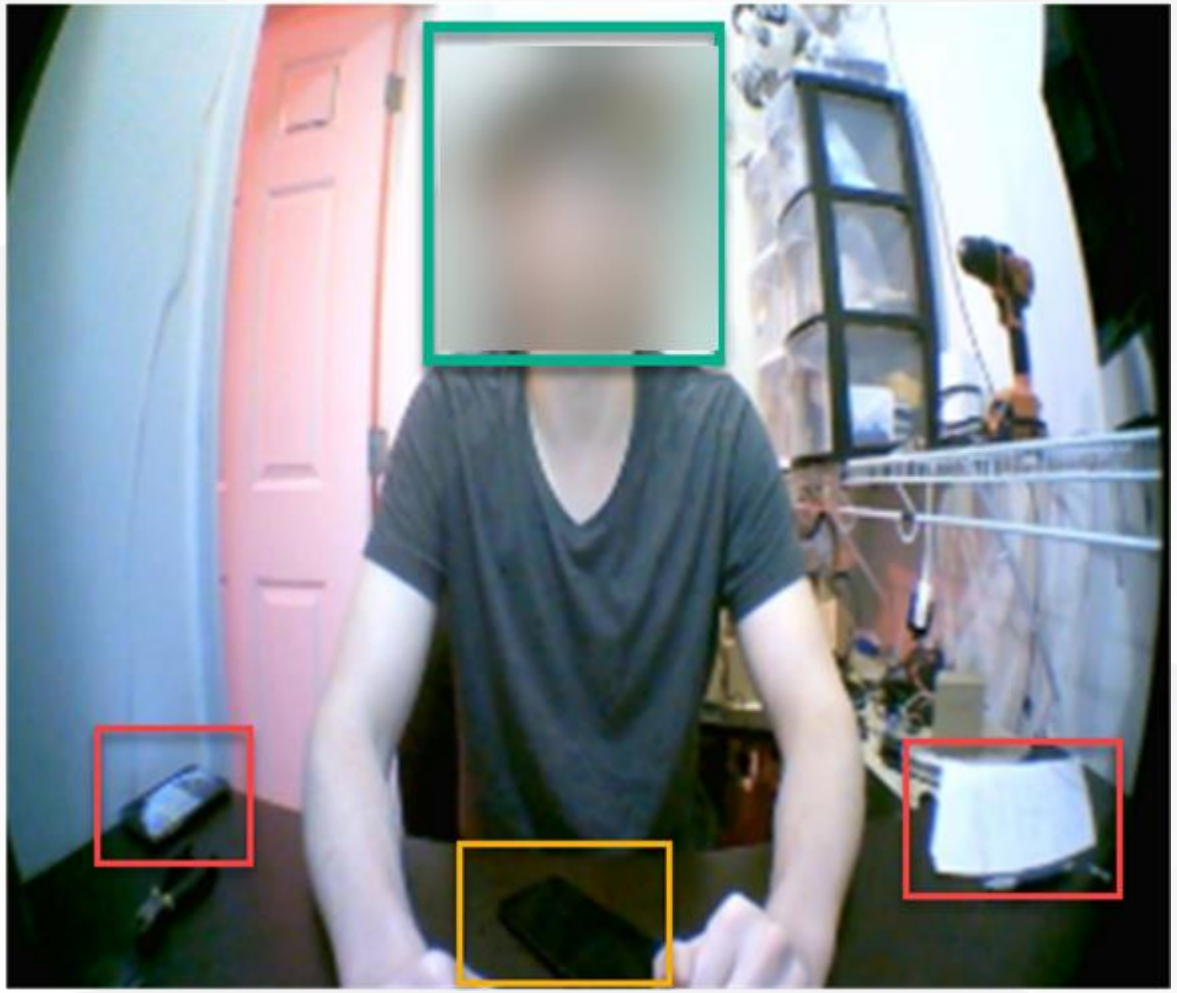


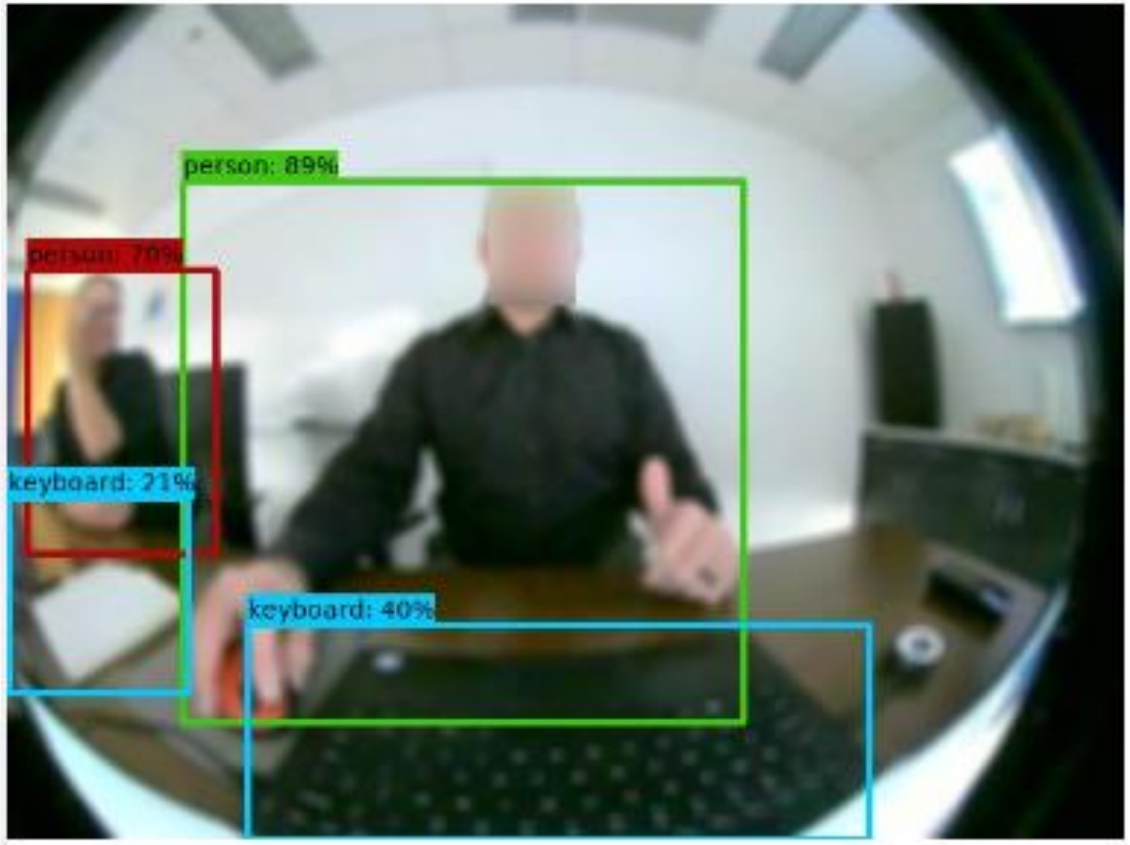
- 高感度鏡頭, 環境明暗皆宜
- 100 KB / 影像檔
- 網路傳輸頻寬要求低
- 低CPU使用率
- 單鏡頭180度視野
- 雙鏡頭度視野

全自動電腦螢幕截屏


Your clock is 0.9 seconds behind.
11:20:06pm
Laptop 15.6" Monitor
External 32" monitor

全方位的工作環境掌控





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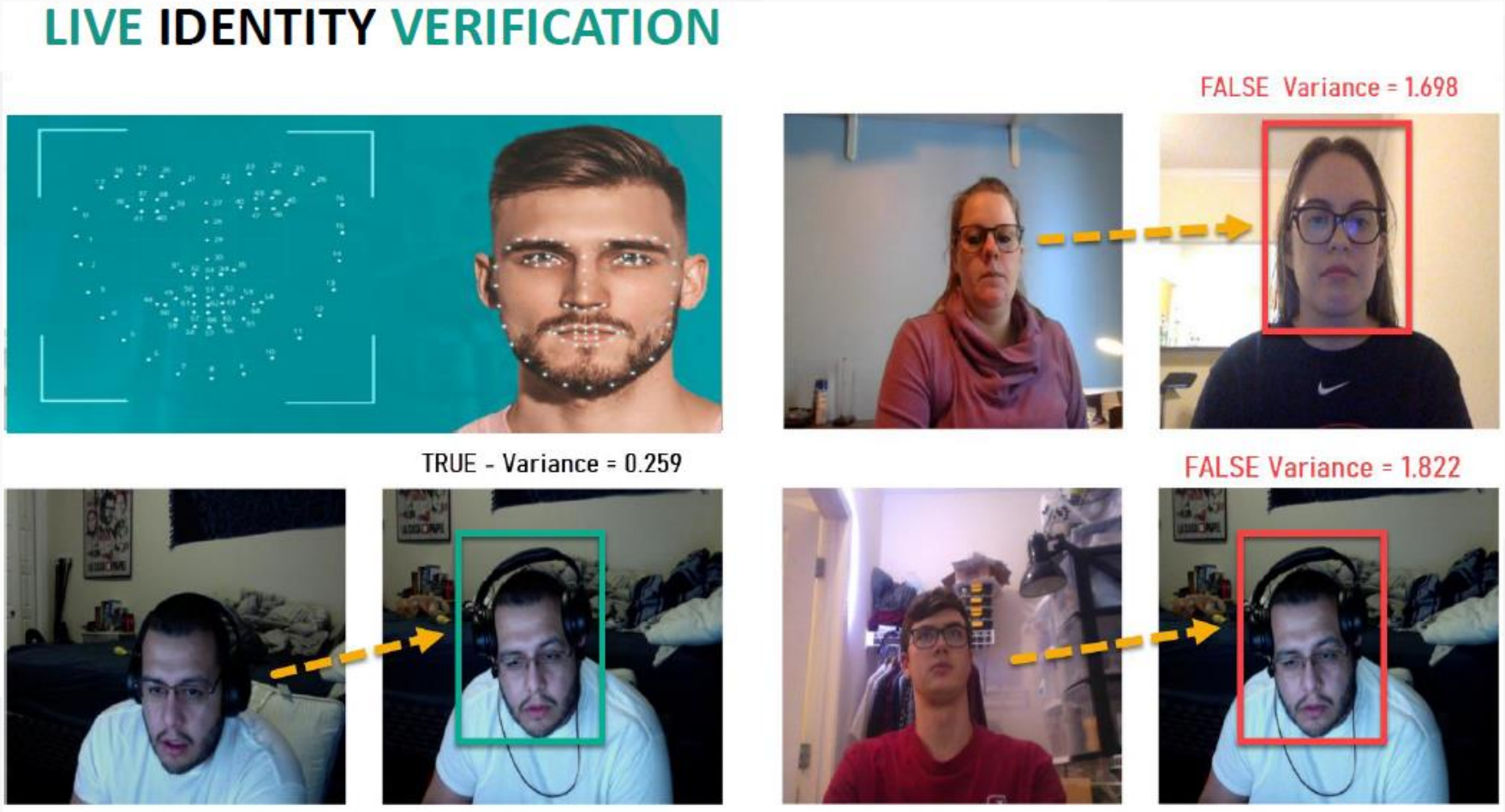
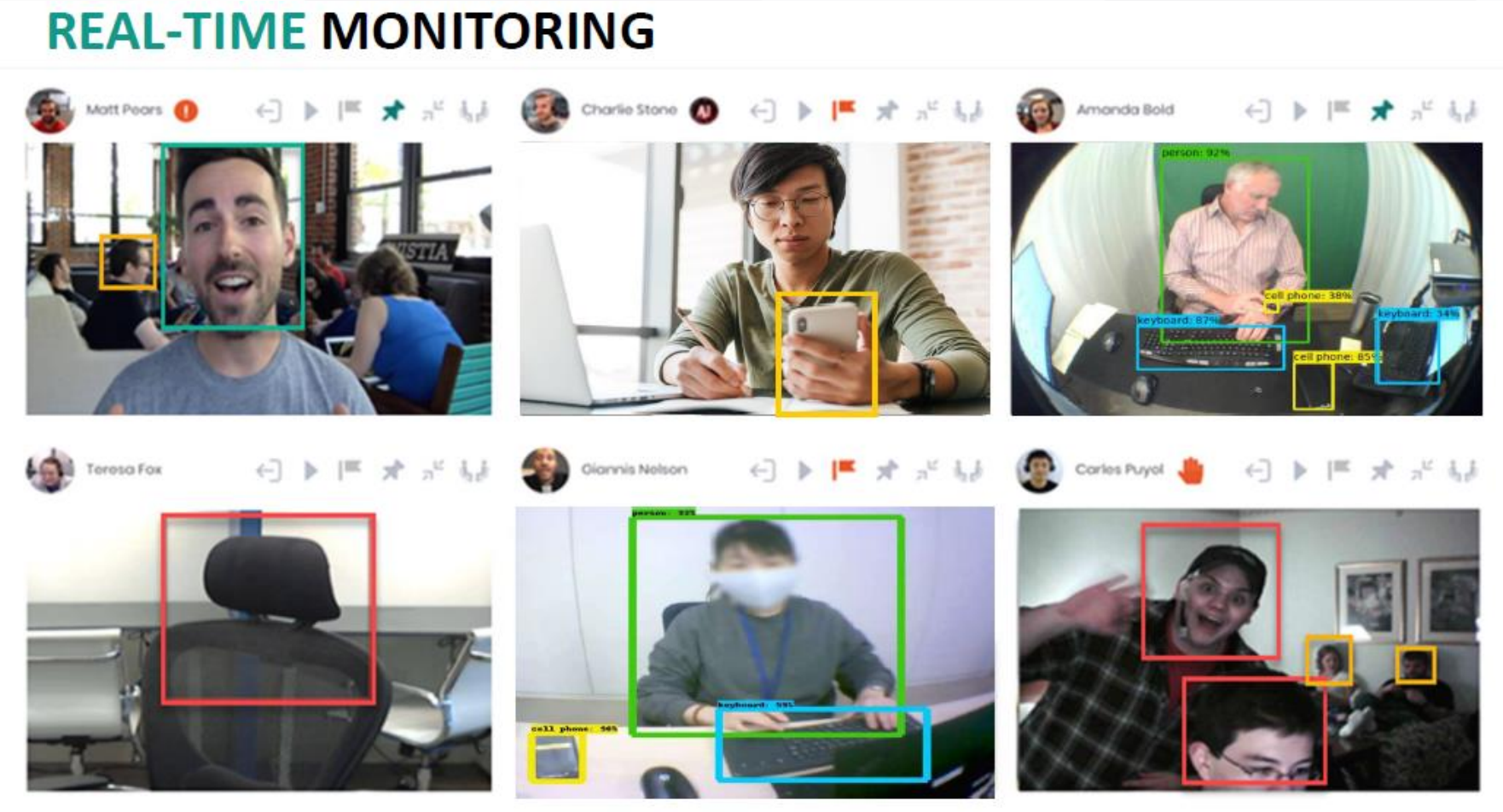
WHO-使用者身分識別


LIVE IDENTITY VERIFICATION
FALSE Variance = 1.698
TRUE - Variance = 0.259
FALSE Variance = 1.822

WHAT-工作環境物件/行為識別

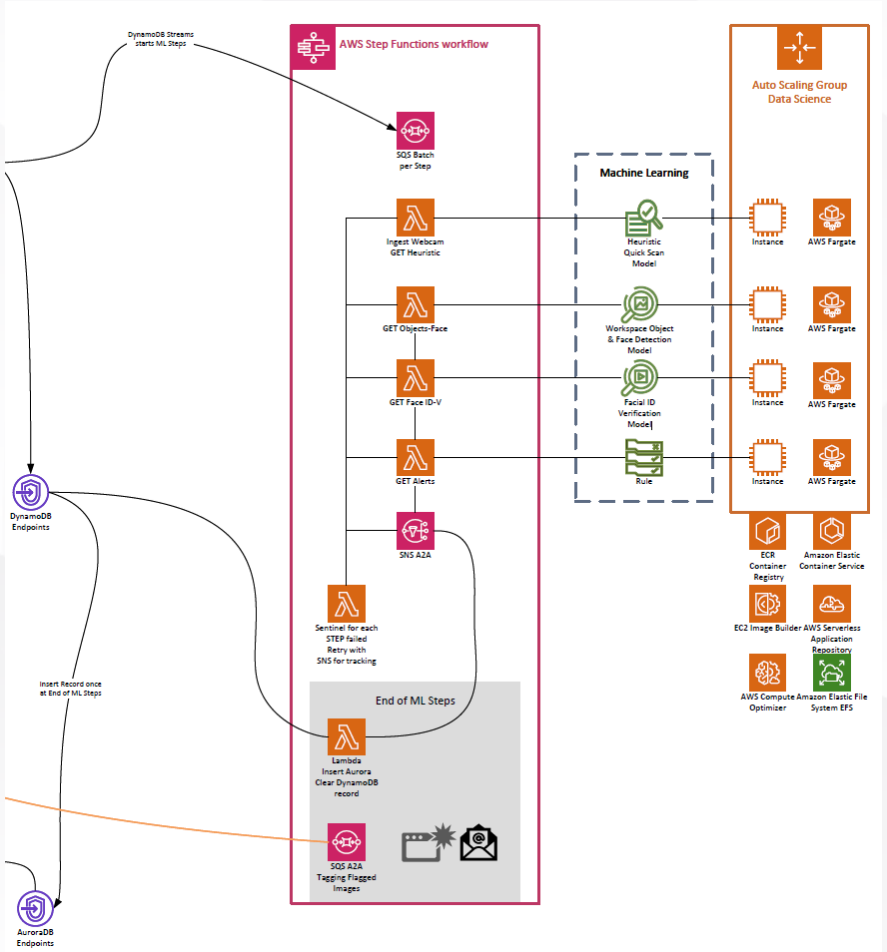


企業需要掌控那些工作環境的影像？

- Endpoint Agent啟動Image Capture
  - Webcam Image: 利用AI/ML技術分析以達成
    - 顏面識別: 使用者身份辨識
    - 物件識別: 手機, 相機, 鍵盤, 螢幕, 紙張
    - 行為識別: 對螢幕拍照
  - Screen Capture: 存證 (對螢幕拍照行為之參考證據)
- Agent將蒐集之影像(Webcam/Screen Capture) 傳至中心比對分析

中心對Agent上傳影像之處理

- Webcam Image:
  - 先將Image轉成Vector (Digital Matrix)
  - Image Differential分析
  - 對Vector執行AI/ML (GPU Hueristic, GPU ASAD, GPU IDV, Rules Engine,…)
  - Facial Recognition, Object Detection, Behavior Detection, Sentiment Analysis
- Screen Capture: 存檔



企業工作環境管控需求

功能類別	功能需求	重要性
權限與存	能與AD或Azure AD整合	Must

RuleName	RuleId	DetectionRules_IsActive	Confidence	CounterConsecutive	CounterSuspend
Cell Detected in Workspace	10	TRUE	0.55	2	5
Cell Detected near Face/Active	11	TRUE	0.55	2	5
Computer Left Unattended	14	TRUE	0	3	30
Identity Periodic Failed	17	TRUE	0.4	3	6
Image Quality Failed	18	TRUE	0	5	24
Keyboard/Laptop 2+ Detected	19	TRUE	0.35	5	10
Paper/Book Detected	22	TRUE	0.35	5	10
Persons 2+ Detected	23	TRUE	0.6	3	6
Webcam Alignment Failed	25	TRUE	0.35	5	24
Cell detected taking pictures	34	TRUE	0.55	3	12

日誌與存證	螢幕截屏功能	Optional
	違規行為拍照存證的功能	Must
	Log匯入SIEM	Must

工作環境管控對企業的貢獻

1. 減少10-15%因遠距工作而損失的生產力
2. 嚇阻機敏資料的外洩行為
3.滿足Clean Desk等合規性要求

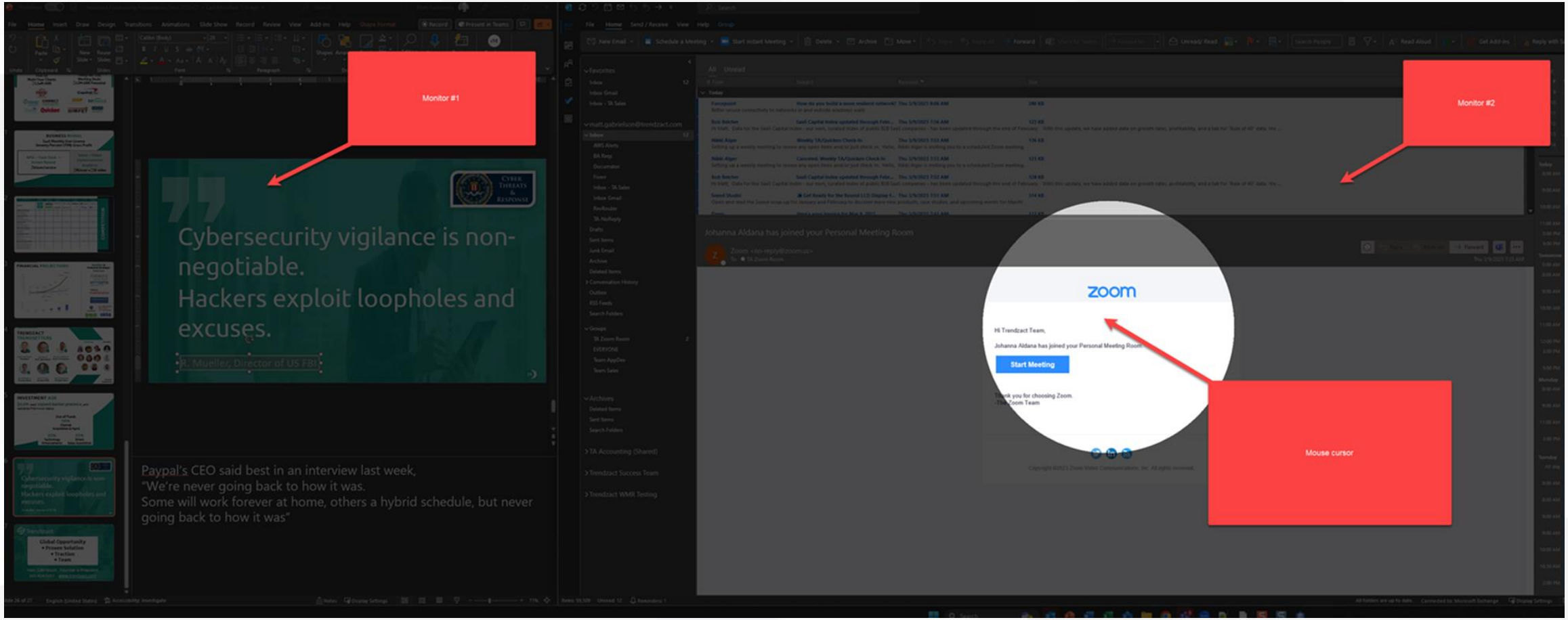
工作環境管控-適用場景

工作環境管控-AWS雲端虛擬主管

- 全球涵蓋率
- SOC 2安全環境
- 國際合規性
- 啟用/部署簡易

雲端平台, 部署簡易, 人工智慧自動監控,
無侵犯隱私疑慮

Future Roadmap: Dynamic Watermart/Screen Response



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Future Roadmap: Landing from the Cloud

- 2023 GA
  - *TrandzAct On Prem*
  - *TrandzAct On Edge*
  - *TrandzAct on ATM*

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Q&A