ICAC

Integrity Risk Management:

Identifying Risks and Strengthening Controls through DIGITALISATION

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Independent Commission Against Corruption (ICAC)

Hong Kong Special Administrative Region of the People’s Republic of China

Organisation Structure

Mr Woo Ying-ming, SBS, CSDSM,
Commissioner, Independent Commission Against Corruption,
Hong Kong, China

Operations Department (OPS)	Corruption Prevention Department (CPD)	Community Relations Department (CRD)	International Cooperation and Corporate Services Department (ICD)
Law Enforcement	**Prevention**	**Education**	**International Cooperation & Administrative Support**
Not Dare to be corrupt	**Not Feasible** to be corrupt	**Not Want** to be corrupt	

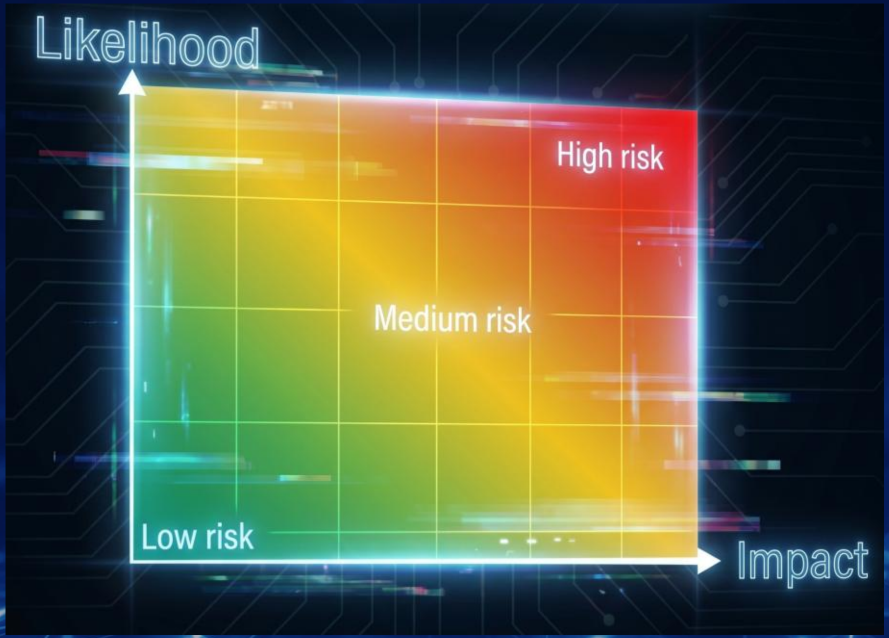
Three-Pronged Strategy

Statutory Duties for Corruption Prevention

ICAC Ordinance Section 12

Identifying and Prioritising Risks

Risk Management Matrix



Risk Drivers

Common high risk areas:

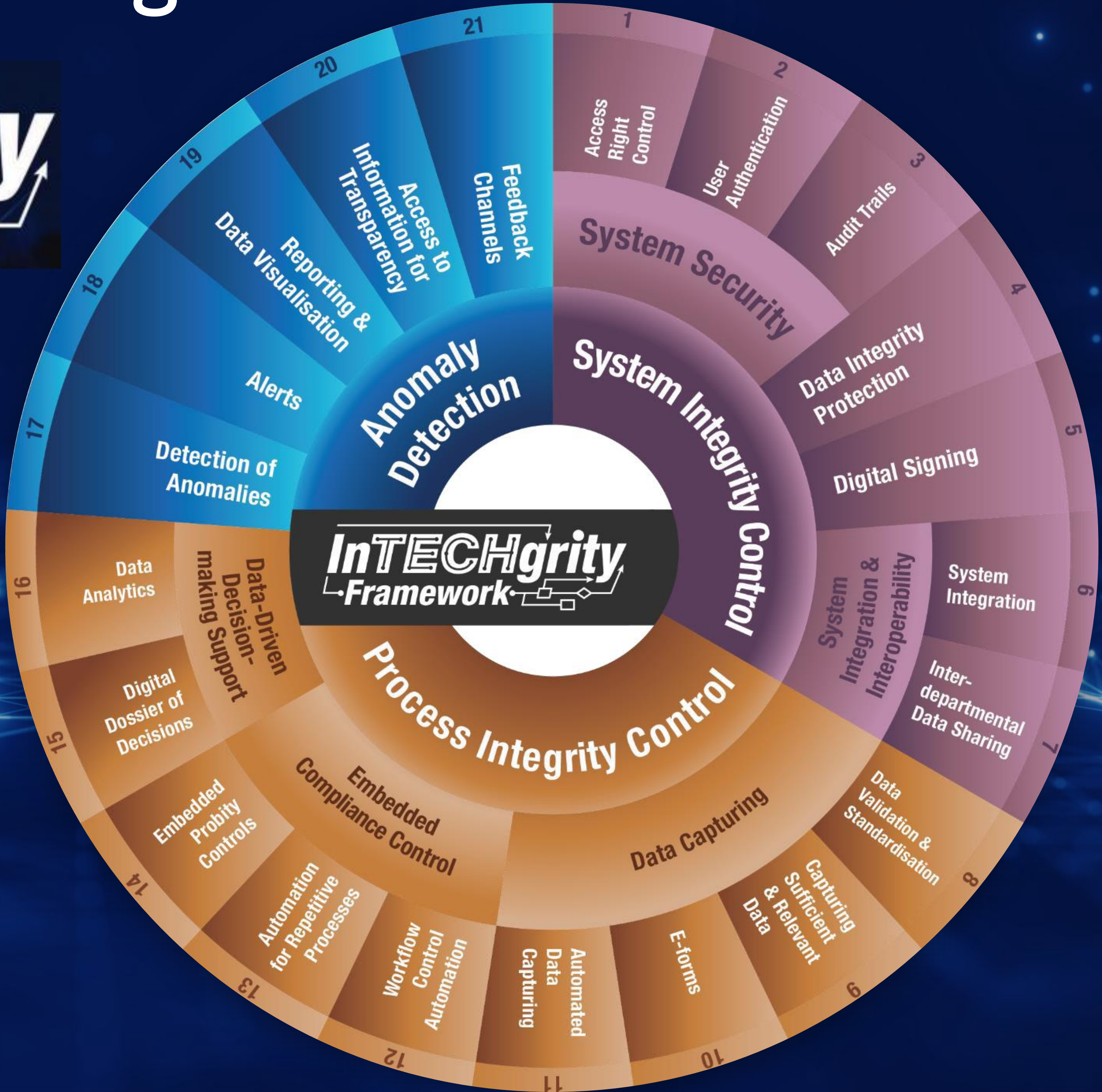
廉政公署 ICAC

Designing and Digital Controls

InTECHgrity Framework

3 Control Objectives

21 Integrity Control Needs



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Data Integrity Protection

Blockchain-based e-certificate verification

CORRUPTION RISKS IN ACADEMIC CREDENTIAL VERIFICATION

- Use of falsified certificates to obtain admission or employment

NEWS > BREAKING NEWS

28-year-old deceives [redacted] with false credentials and possesses fraudulent certificate

BREAKING NEWS 13-01-2025 19:43 HKT

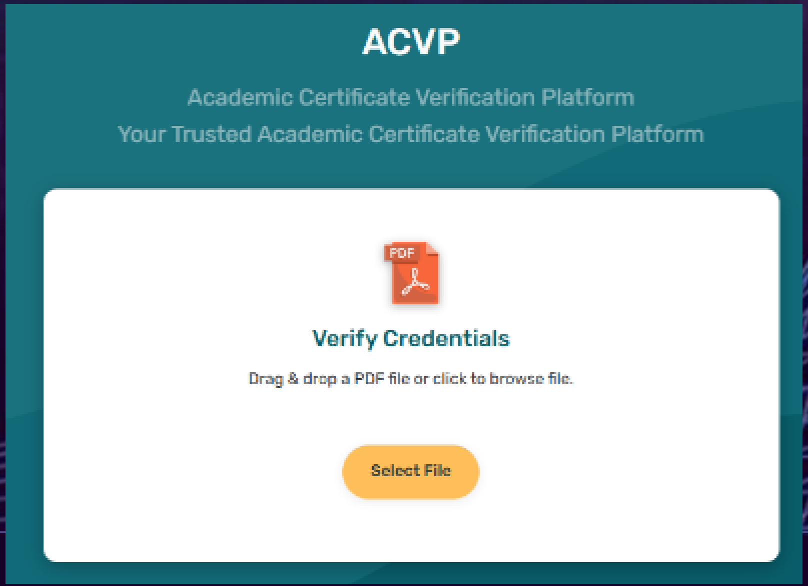
NEWS > BREAKING NEWS

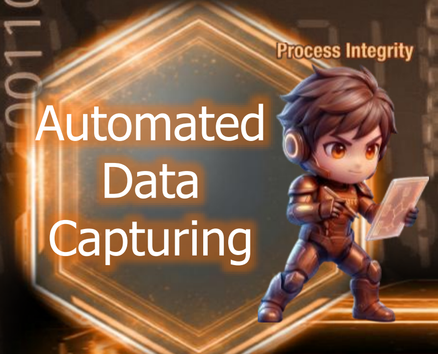
Some 30 master students caught using false credentials to enroll in [redacted] Business School

BREAKING NEWS 04-07-2024 18:03 HKT

Key CP Features :

- Applicant shares an e-certificate embedded with a QR code
- Verifier scans the QR code or uploads the file to a designated verification portal
- Blockchain validates the certificate's integrity → any tampering triggers an alert





E-inspection system

CORRUPTION RISKS IN TRADITIONAL INSPECTION MONITORING

- Paper-based inspection checklist: human error, loss, poor accessibility, tampering
- Limited supervisory oversight during fieldwork
- Difficult to detect falsified reports (e.g. fake photos, inspection claimed at impossible times)

ICAC Press Release

The ICAC investigation revealed that on various occasions, A had instructed B to take photographs of XX facilities and alter the date and time of the photographs, which purported to have been taken on different days. Upon A's instruction, B used those photographs to compile the relevant daily inspection reports for submissions to the relevant government department.

Key Corruption Prevention Control Features:

- Mobile devices for on-site result documentation
- Upload restrictions to prevent use of stored/edited photos
- Photo/video capture with automatic timestamp & geolocation
- Data analytics to detect irregularities in inspection time, location, activity

Example: AI-Powered Football Integrity Analysis System

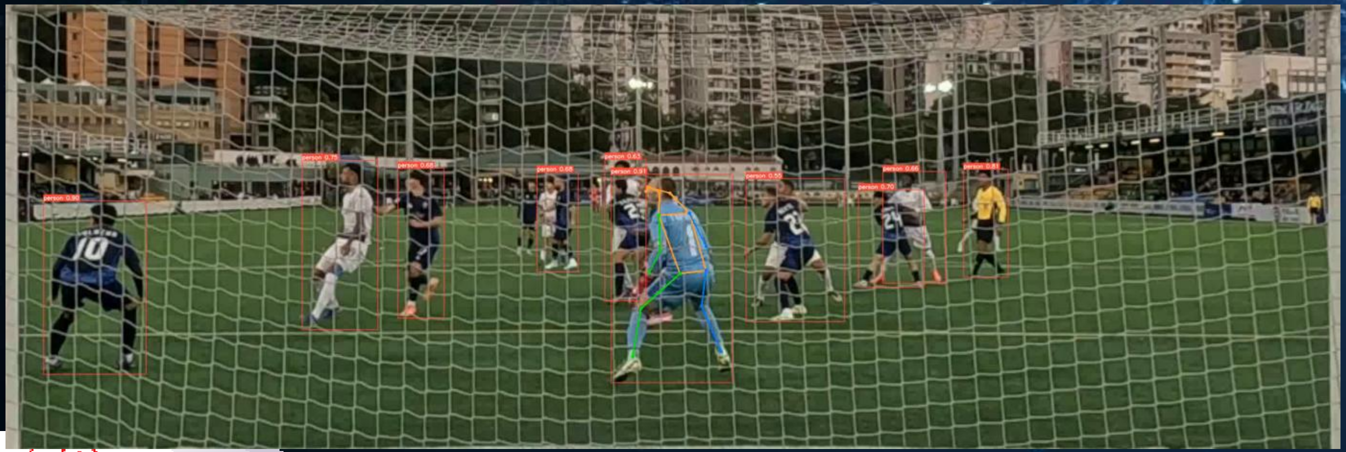
CORRUPTION RISK: Match-fixing


Illegal gambling mastermind and football club owner among four charged in match-fixing scandal

- Uses AI-powered computer vision to track body posture & movement of goalkeeper and players (within 20 metres of the ball) during gameplay
- Analyses reaction time, positioning, and effort to identify signs of intentional underperformance
- Flags suspicious or unnatural actions for review

<u>Possible Anomalies Detected:</u>

1. Goalkeeper moved to direction of shot slowly comparing with average ball speed

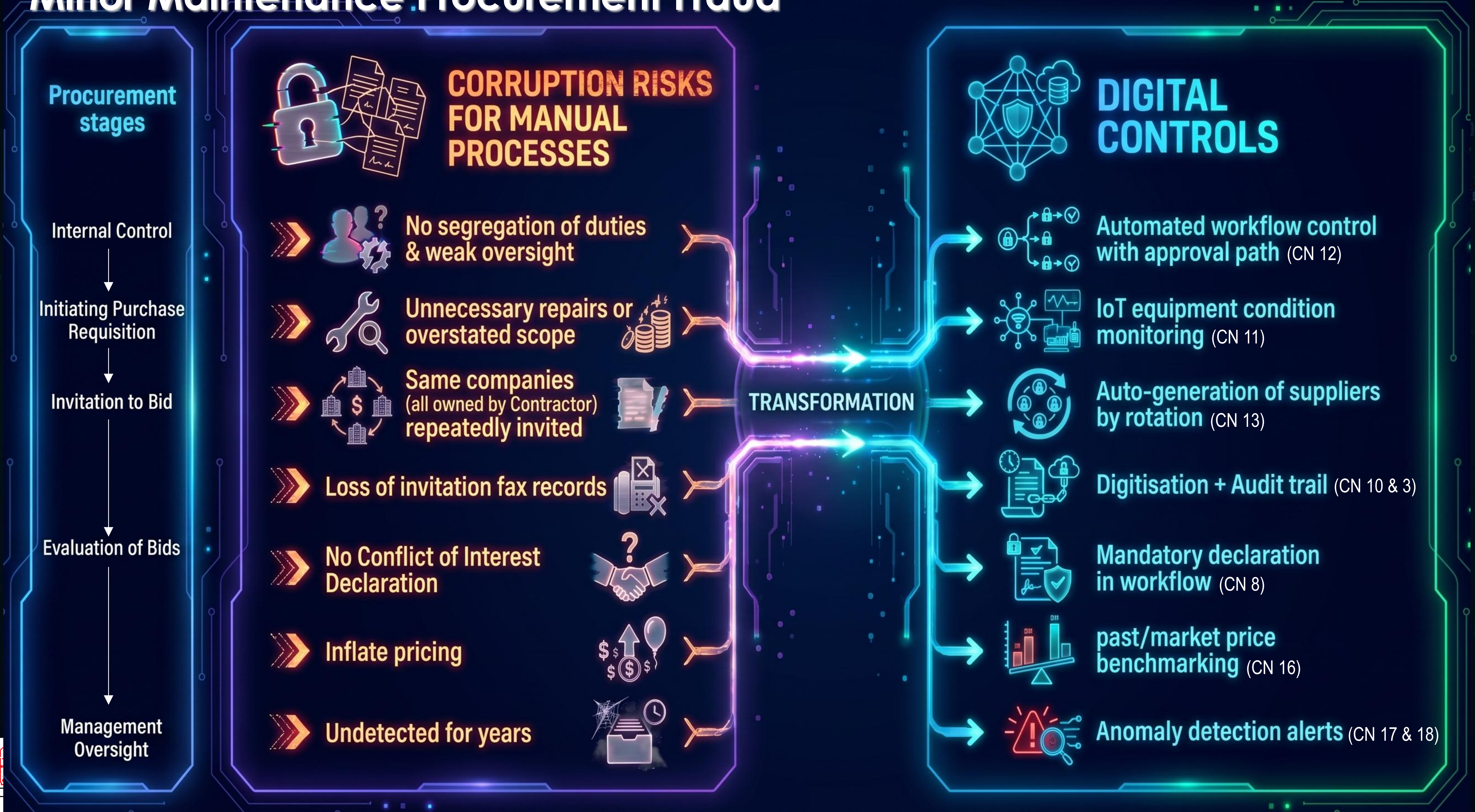


2. Player delayed restart (especially when opponent is leading)

Minor Maintenance Procurement Fraud

(Purchase of parts below USD 640/order)

Minor Maintenance Procurement Fraud



Ensuring Effective Implementation

Traditional Approach	New Complimentary Approach

Audit Reviews

- Thorough, tailor-made, but slow
- Issues found only retrospectively
- Request supporting to prove implementation

- Mandatory InTECHgrity assessment for new systems as **FUNDING PRE-REQUISITE**
- To review 200 systems/ year
- Advice provided upfront
- Submit system implementation details for our comments

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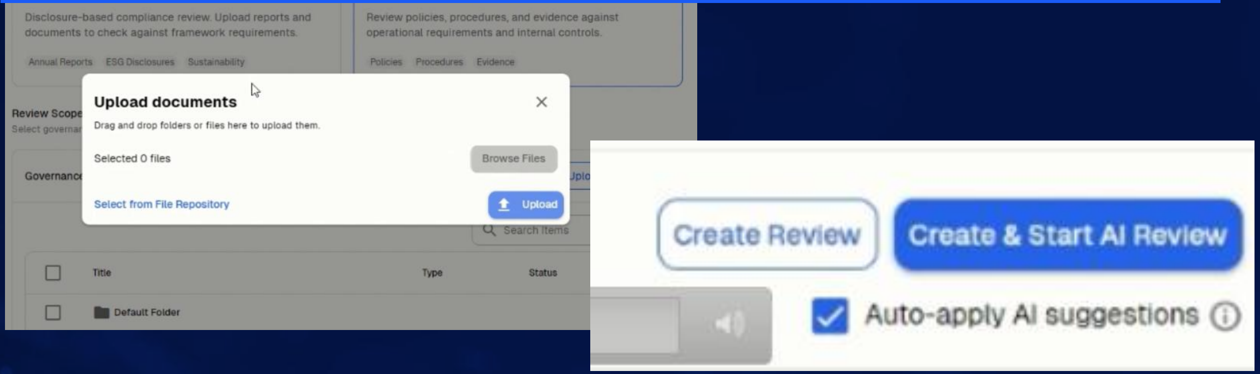
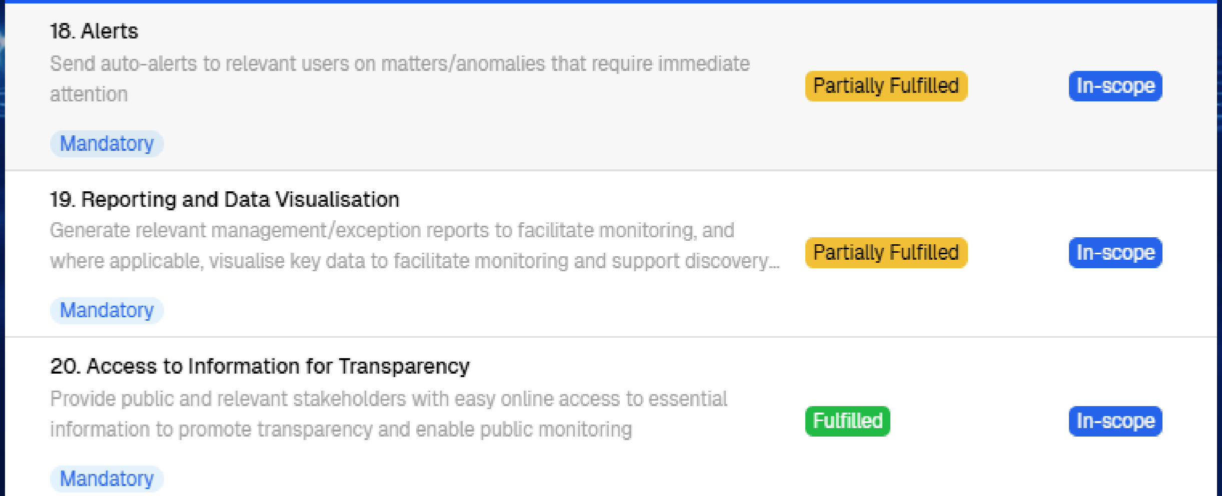
Automated Compliance Analysis Tool

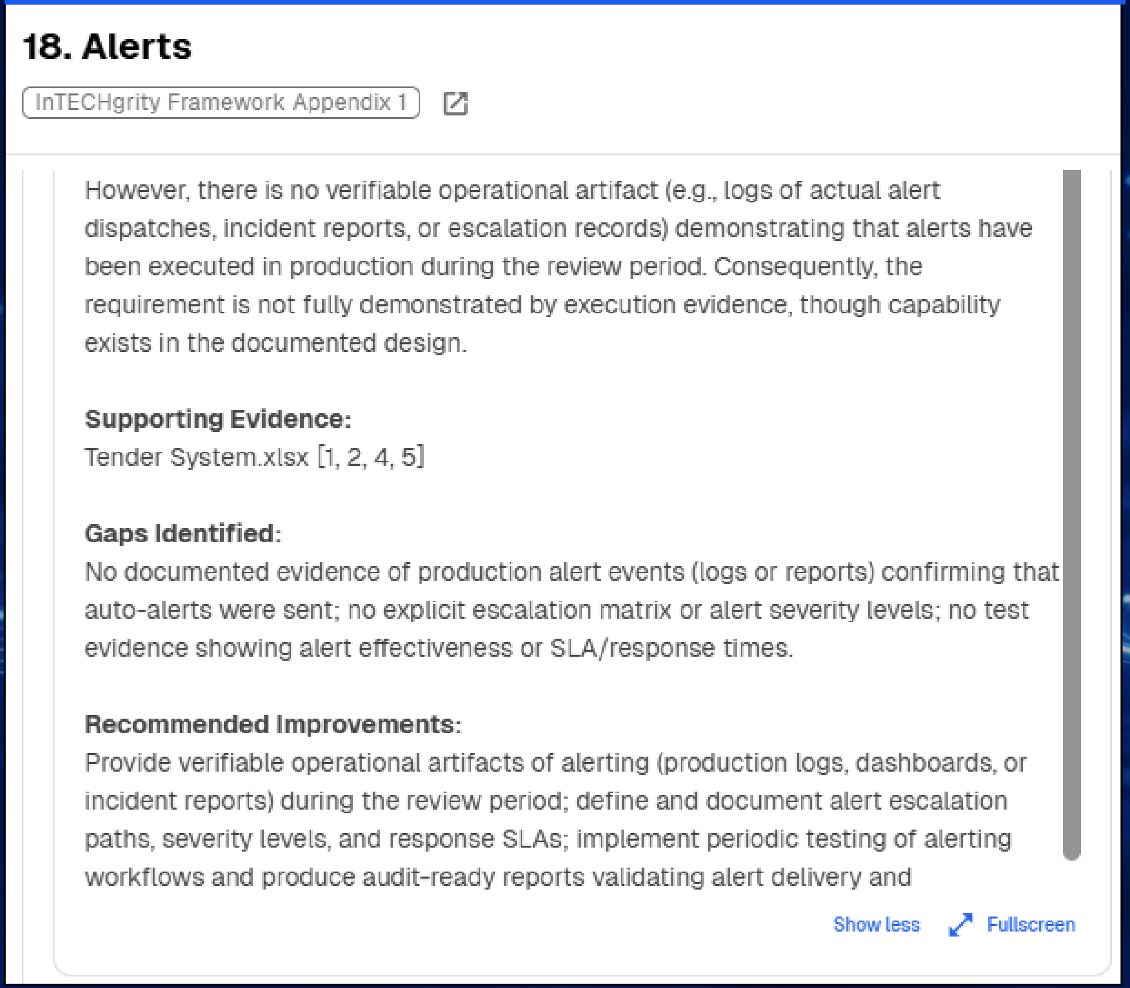
1. Upload specifications and start AI review



2. AI assesses whether InTECHgrity controls are fulfilled



3. With reasons and recommendations



CP Solutions developed by Hackathon Participants

JustDo

Macao, SAR

Procurement Fraud Detection – Bid-rigging
Detect potential collusion by analysing and comparing similarities across submitted bid documents

Similarity Analysis Engine
- Semantic Analysis
- Layout Analysis
- Image Analysis

Analyse files using Document Layout OCR

100%

Proposal For Urban Revitalization and Landscaping Project

Submitted To:
Procurement Commission
Public Works Bureau, Macao SAR

Submitted By:
Golden Lotus Construction

Submission Date:
November 25, 2024

Tender Reference: Urban Revitalization and Landscaping Project

SECTION A: About Our Company

Golden Lotus Construction is a dedicated local firm with over a decade of experience in delivering high-quality construction projects within the Macao SAR. Our core principle is a client-centric focus, ensuring we work in close partnership to execute projects that align perfectly with their vision. We are highly confident in our capacity to deliver the "Urban Revitalization and Landscaping Project" to the highest standard and within the agreed timeline. Our operations are fully compliant with all Macau regulations, supported by our in-house team of 5 full-time, licensed engineers.

SECTION B: Our Proven Experience

Our portfolio includes a wide range of urban development and landscaping projects that showcase our expertise and capabilities in this specific area:

- **Taipa Grand Park Redevelopment (2021-2023):** This major project involved the design and construction of public green areas and recreational pathways, directly mirroring the scope of this tender.
- **Institute for Tourism Studies Greening Initiative (2019-2020):** Our work on this campus demonstrated our skill in creating sustainable, beautiful environments for public institutions.
- **Penha Hill Pathway Restoration (2020-2023):** We served as a primary contractor for this initiative, providing crucial construction support for the restoration of historic walkways and public rest areas.

All Highlights (30)

TEXT Page 1 100%
Our portfolio includes a wide range of urban developme...

TEXT Page 1 99%
Golden Lotus Construction is a dedicated local firm with...

TITLE Page 1 99%
Proposal For Urban Revitalization and Landscaping Proj...

TITLE Page 1 98%
SECTION B: Our Proven Experience

TITLE Page 1 95%
Tender Reference: Urban Revitalization and Landscaping...

Company J $239,000
File: bid_7.pdf
Uploaded: 9/18/2025

Company F $271,000
File: bid_6.pdf
Uploaded: 9/11/2025

Semantic 17 | Layout 5 | Images 2

CRITICAL RISK 95%

Image Similarity Analysis — 2 findings

Image

Image analysis

MEDIUM RISK 79%

Content Comparison

Company J | Company F

Image Match Analysis

Match Type: Similar Content
Confidence: 90.6%

Suspicious indicators:
. Identical structural patterns detected

Add to Report

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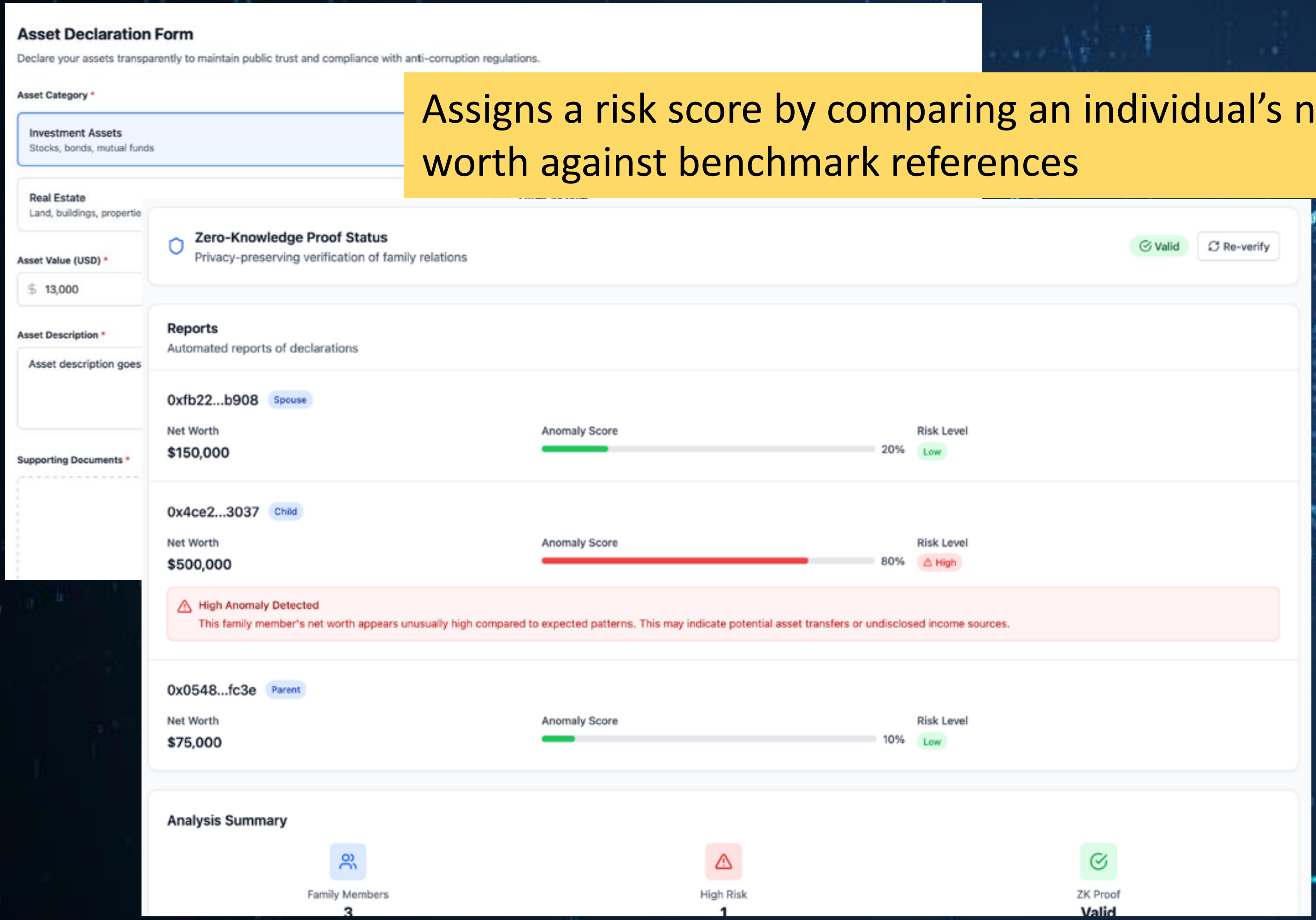
Uzbekistan

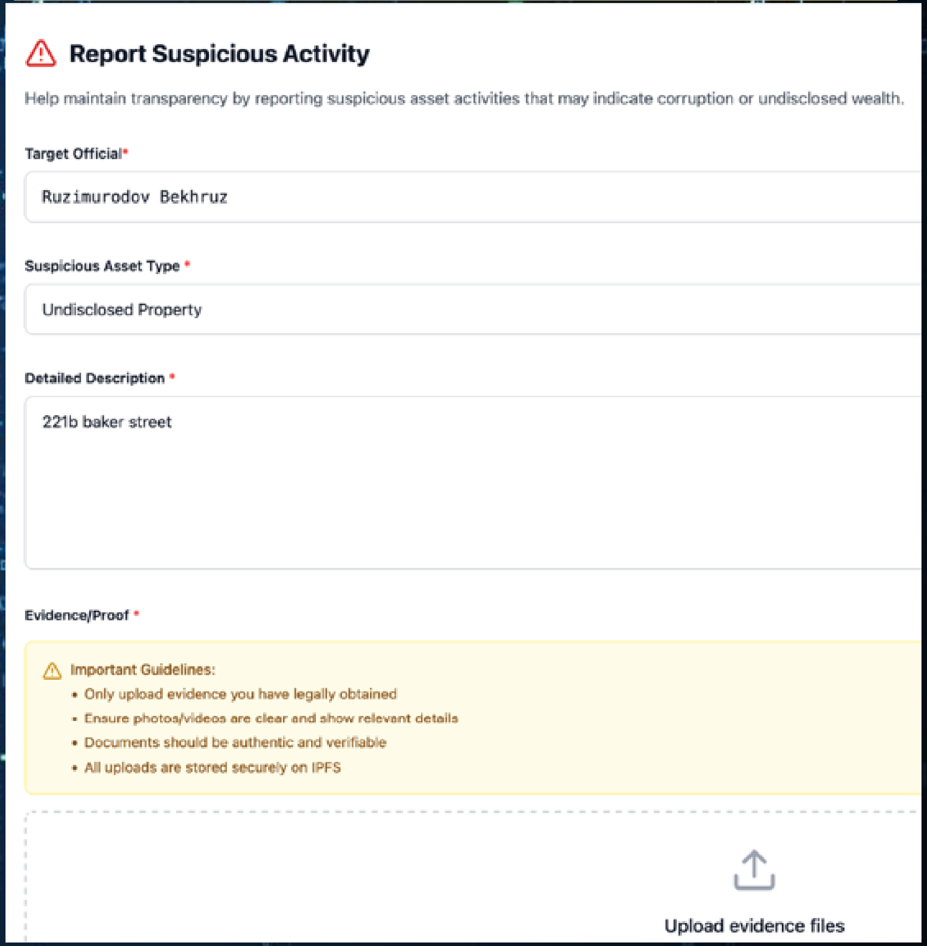
CP Solutions developed by Hackathon Participants

Blockchain-based Asset Declaration and Auditing Platform

Assigns a risk score by comparing an individual's net worth against benchmark references



E-channel to report suspicious activity



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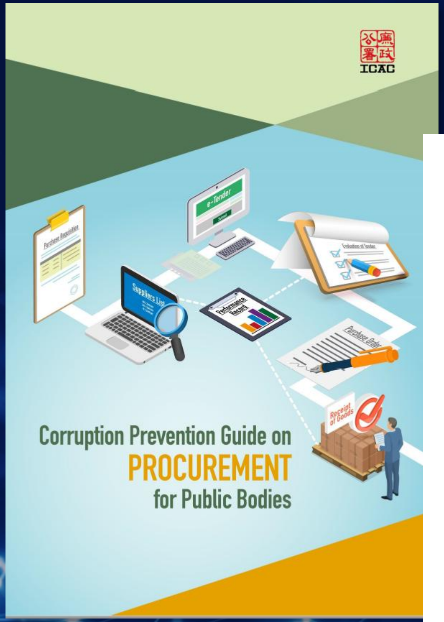
Corruption Prevention Guides

CPAS



3.2 INITIATING PURCHASE REQUISITIONS

Major Corruption Risks

- Placement of unnecessary or excessive orders.
- Splitting of orders to circumvent more stringent controls for higher-value purchases.

Common Inadequacies

- Lack of an established budgeting process.
- No justifications on the need for raising purchase requisitions.
- Inadequate monitoring or scrutiny to assess the need for purchase.
- Lack of a mechanism to detect split orders.

Red Flags

- Instances where quantities of items requested significantly exceed the typical usage pattern without a valid reason.
- Repeated purchases of the same goods/services with the value often just below a monetary threshold warranting approval from a higher authority.
- Instances of unbudgeted purchases or purchases exceeding budgeted amounts without proper justifications.
- A pattern showing purchases being pooled together while the normal approving authority is away from office.

Corruption Prevention Controls

- Put in place a robust budgeting process to facilitate a proper control on initiating purchase requisitions –
  - formulating a budget covering, among others, major procurement items and the estimated expenditure;
  - taking into consideration any expiration of term/service contracts;
  - stating any major assumptions made;
  - explaining any significant difference with the budget and actual expenditure on procurement of the previous years;
  - submitting the budget for approval by the designated authority (e.g. board, finance committee); and
  - subjecting the approved budget to mid-year review to ensure any significant variance has been accounted for.

Case Scenario – Splitting Orders

A director of an organisation solicited and accepted illegal kickbacks from a contractor as a reward for awarding a number of contracts to that contractor. The organisation required contracts worth over a specified monetary threshold to be approved by a committee. To circumvent the control, the director split the purchases into smaller contracts and instructed the contractor to submit bids just below the specified threshold.

5 DIGITALISED CORRUPTION PREVENTION FUNCTIONALITIES FOR PROCUREMENT

Thank you

See you in Hong Kong