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INTERNATIONAL CIVIL AVIATION ORGANIZATION

A UN SPECIALIZED AGENCY

UAS/RPAS Threat to Civil Aviation

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International Civil Aviation Organization

- **UN Specialized Agency,** created in 1947, counting **193** Member States and **issuing** legal instruments: conventions, protocols, resolutions, **standards** and recommended practices (SARPs) addressed **to States** contained in 19 Annexes to the Chicago Convention (1944), **auditing** States and **assisting** them in implementation of SARPs

UAS/RPAS Principles

REGISTRATION & IDENTIFICATION

Like all aircraft, UA and RPA must be registered, have nationality and registration marks and the identification must be known or easily obtainable

SAFE INTEGRATION

Primary focus is the safe integration into the existing aviation system, as a predictable, cooperative partner

NO DISRUPTION

Neither UAS nor RPAS operations should disrupt the conventional aviation system and should present no increased risk to persons or property on the ground

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UAS vs RPAS

COMMERCIAL, PROFESSIONAL, HUMANITARIAN

- The use cases for UA weighing from a few grams up to 100 kgs are innumerable

- Industry is demanding increased access
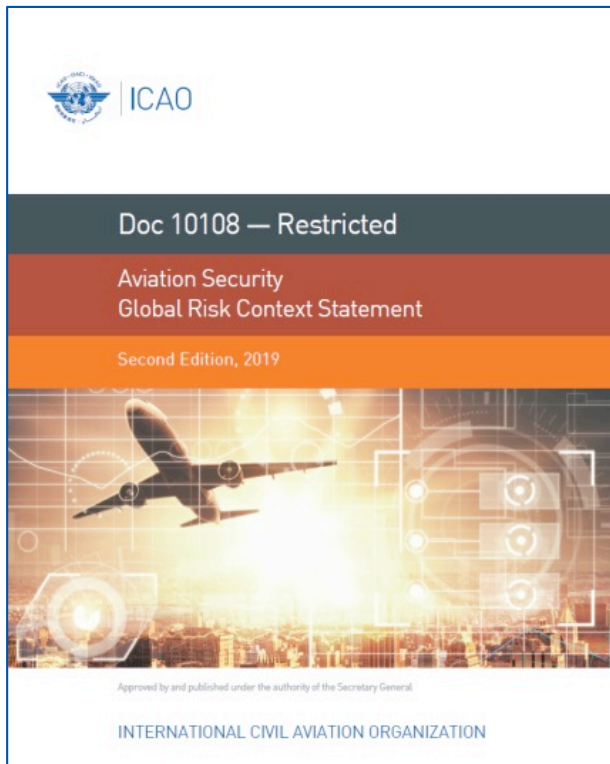
- Remains largely outside ICAO's SARPs

MANNED AVIATION APPROACH

Comply with conventional mandates, processes and expectations. ICAO SARPs provide regulatory framework

ICAO risk advice

Risk picture is yearly published in the Aviation Security Global Risk Context Statement document

(Doc 10108, Restricted)

☑ A dedicated WG produces global risk advice, for States and ICAO governing bodies

☑ Risk picture is updated yearly, based on a pre-established risk assessment methodology, which considers a number of risk scenarios

☑ Threat, consequences and vulnerability information are inputs to the assessment

☑ SARPs are created or amended based on risk advice by this WG

UAS/RPAS threat

PLAUSIBLE SCENARIOS

Main focus on those where smaller UA (drones) could be used by terrorists to conduct an attack, for example by attaching a payload to them

TARGETS

Primary concern on attacks directed at aviation targets or crowded places or infrastructures

AVAILABLE UAS

Smaller UA are freely available but relatively limited in destructive power

Larger RPA are much more difficult to acquire, albeit a growing market that may enhance terrorist capabilities

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Risk assessment

Likelihood

- Smaller UA are easily obtained and widely used. Their purchase and use would not attract suspicion

- Attack planning on civilian targets has been reported in a number of States

- Examples of disruption caused by the use of small UA around airports has revealed the ease with which incursions can occur

- The capability and ease of use of small and medium-size drones have also increased rapidly over recent years
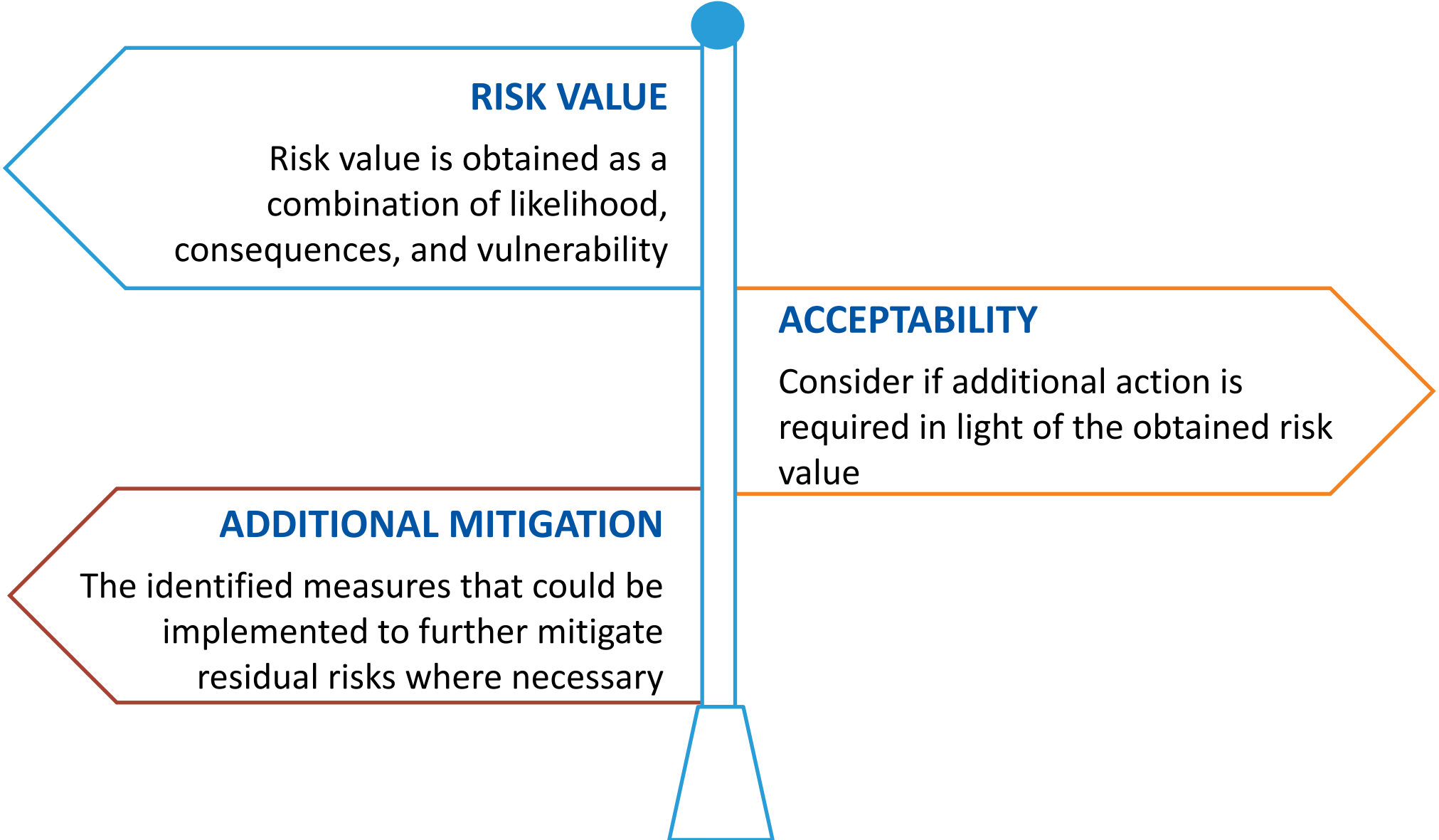
Consequence

- The larger the aircraft, the greater the potential for structural damage caused by explosion, or collision

Vulnerability

- Inherent difficulty in preventing the acquisition and malicious use of UA

- Increased range and payload of RPA

- Limited ability to track and prevent use near airports

Risk level

RISK VALUE

Risk value is obtained as a combination of likelihood, consequences, and vulnerability

ACCEPTABILITY

Consider if additional action is required in light of the obtained risk value

ADDITIONAL MITIGATION

The identified measures that could be implemented to further mitigate residual risks where necessary

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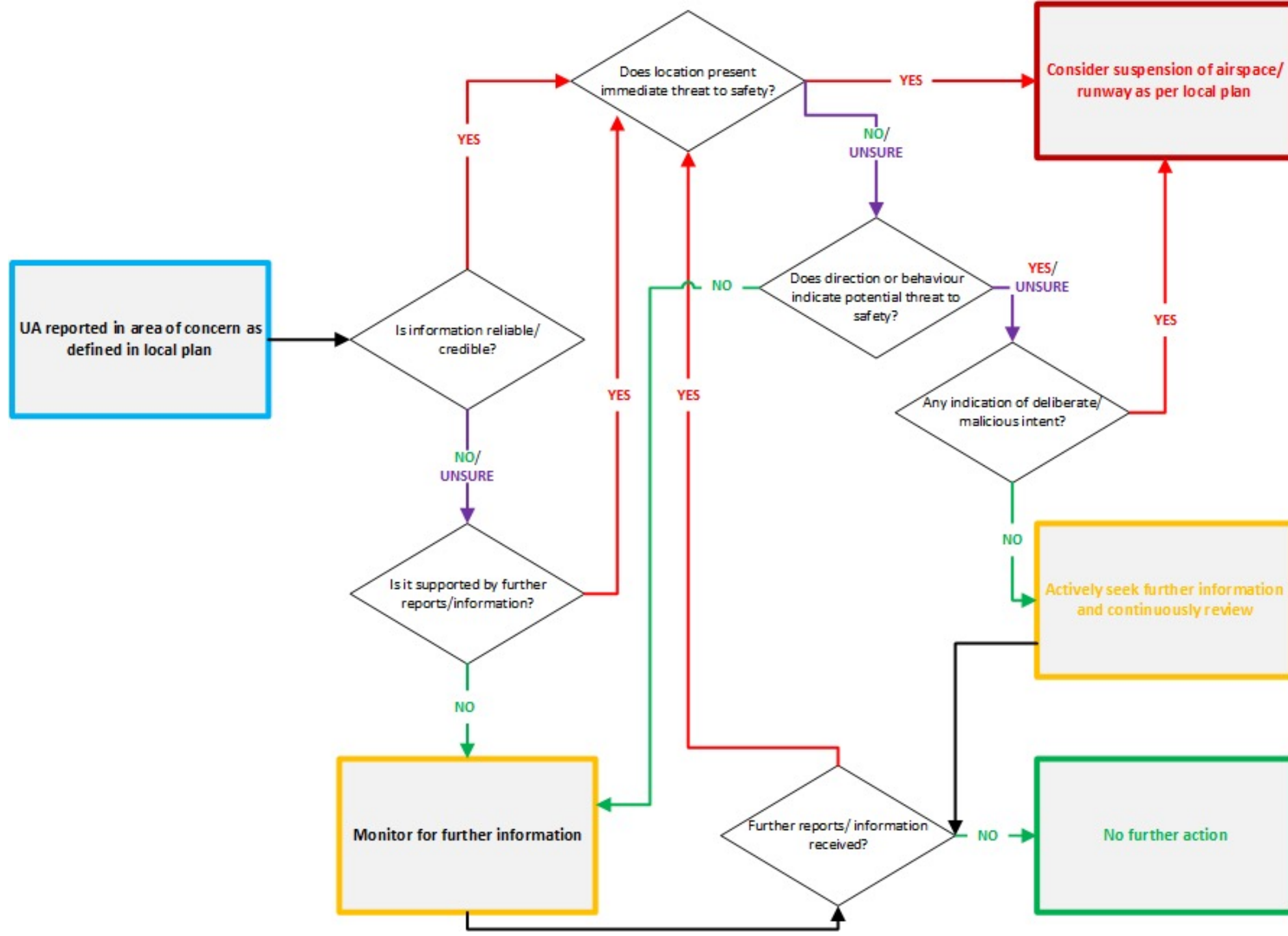
Protection of aviation infrastructure

- Multidisciplinary approach
- Coordination of responsibilities
- Prevention thru regs, tech and public awareness
- No universal effective technical counter-UAS tech

Preparedness and incident response

Preparedness and incident response

- Prioritize civil aviation and public safety

- Follow pre-established decision-making process

- Respond rapidly, effectively and proportionally:

  - Local contingency plan (with threat zone mapping)

  - Roles and actions by each entity

  - Common threat assessment protocol

  - Clear instructions on how to respond according to threat levels

  - Training and exercises

  - Framework for reporting of sightings

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Thank You

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