



**Emerging
Technologies
Programme**

Emerging Technologies Unit and Emerging Technologies Programme

Who we are, what we do, what the Programme is all about

Context

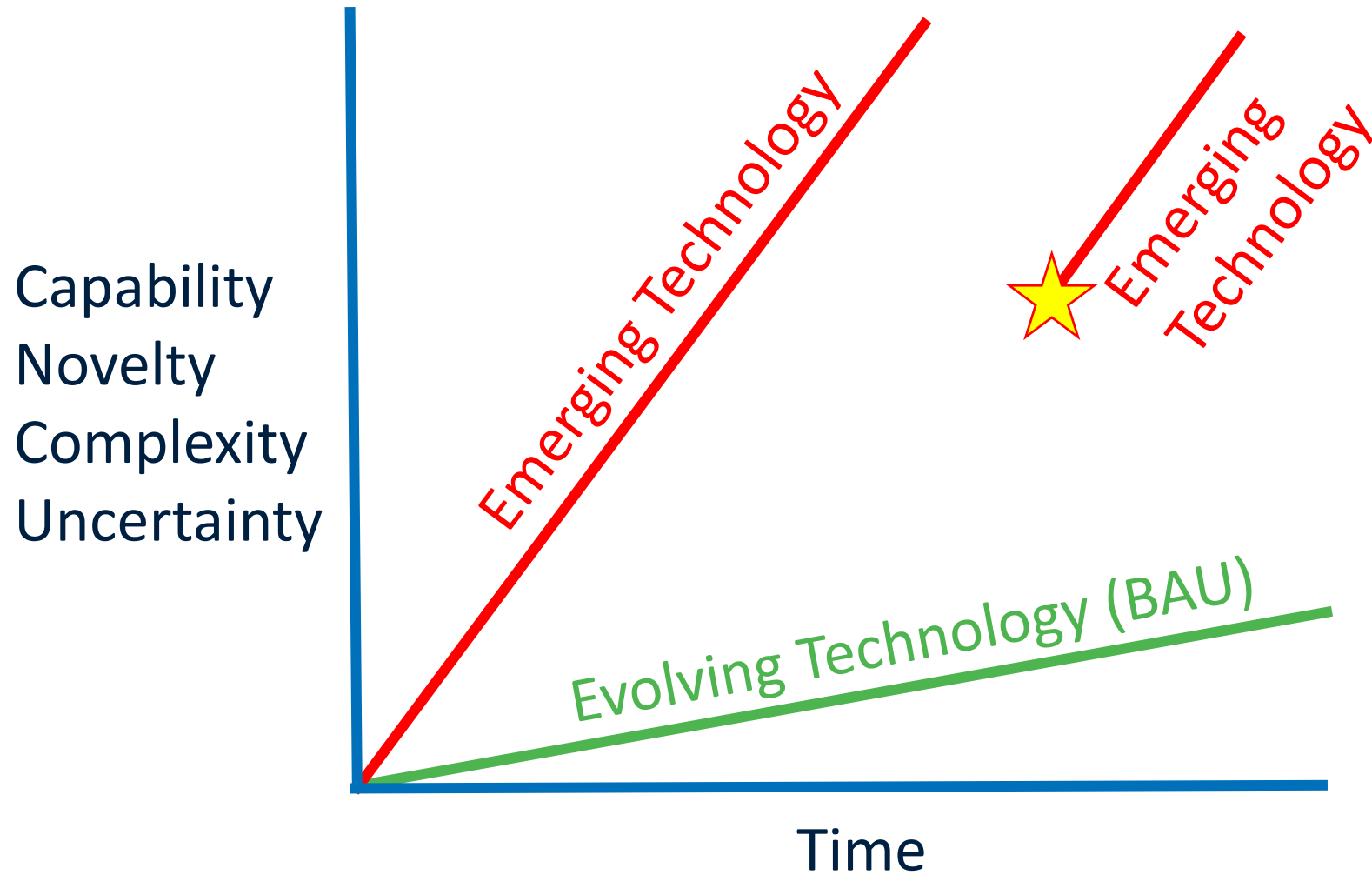


- New Zealand is a signatory to the Chicago Convention 1944
- ICAO oversees the Convention worldwide
- New Zealand is a member of ICAO
- MoT makes the Civil Aviation Rules (CARs)
- CAA is the independent Regulator of CARs and provides approvals

Strategic Aim of ETP

Act as a bridge between the CAA and our emerging technologies aerospace and aviation stakeholders, to provide the most effective ongoing regulatory interface possible, in order to enable the safe and effective integration of emerging technologies into the civil aviation system

What are Emerging Technologies v Expected Improvements?

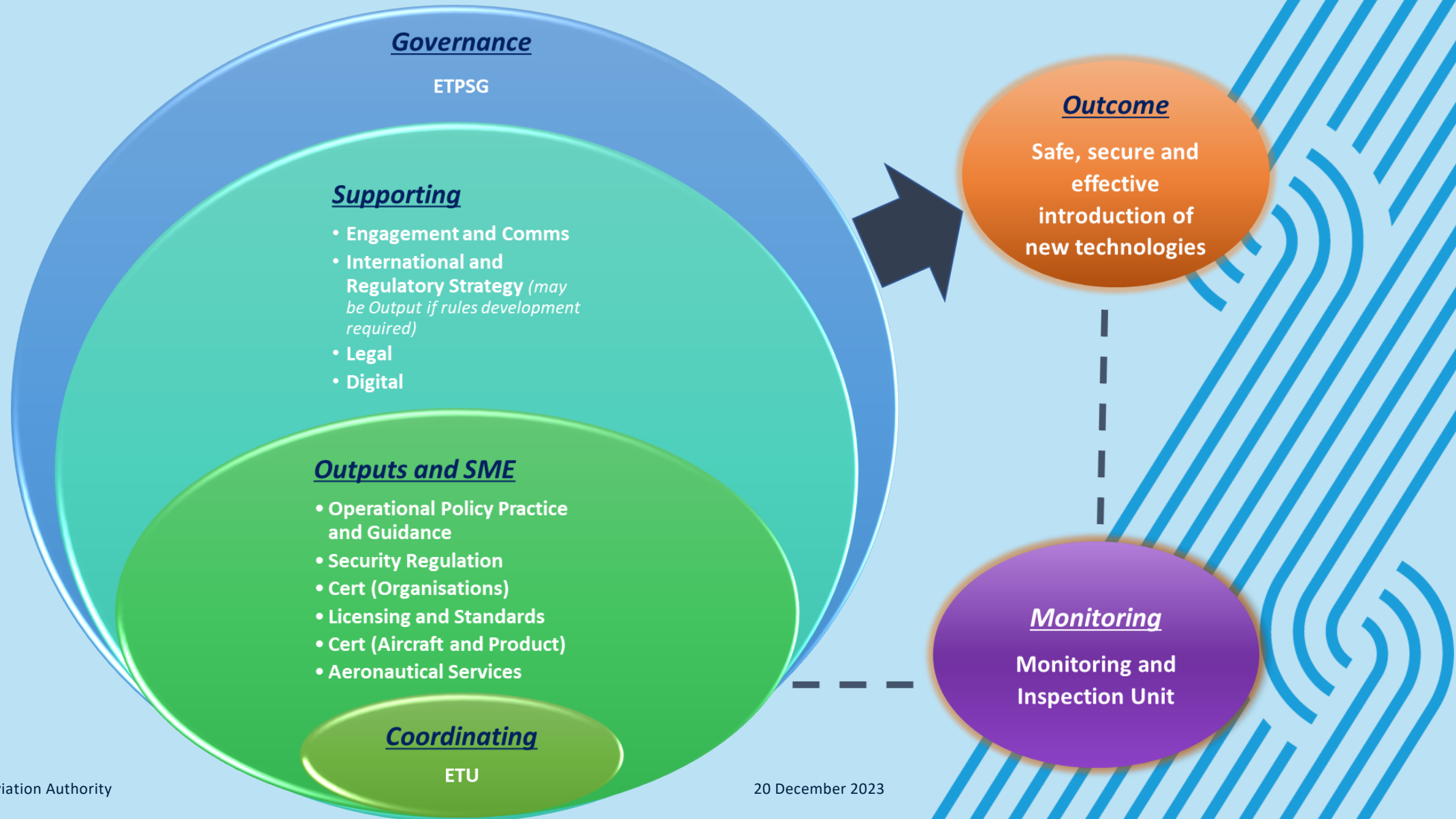


What is an Emerging Technology?

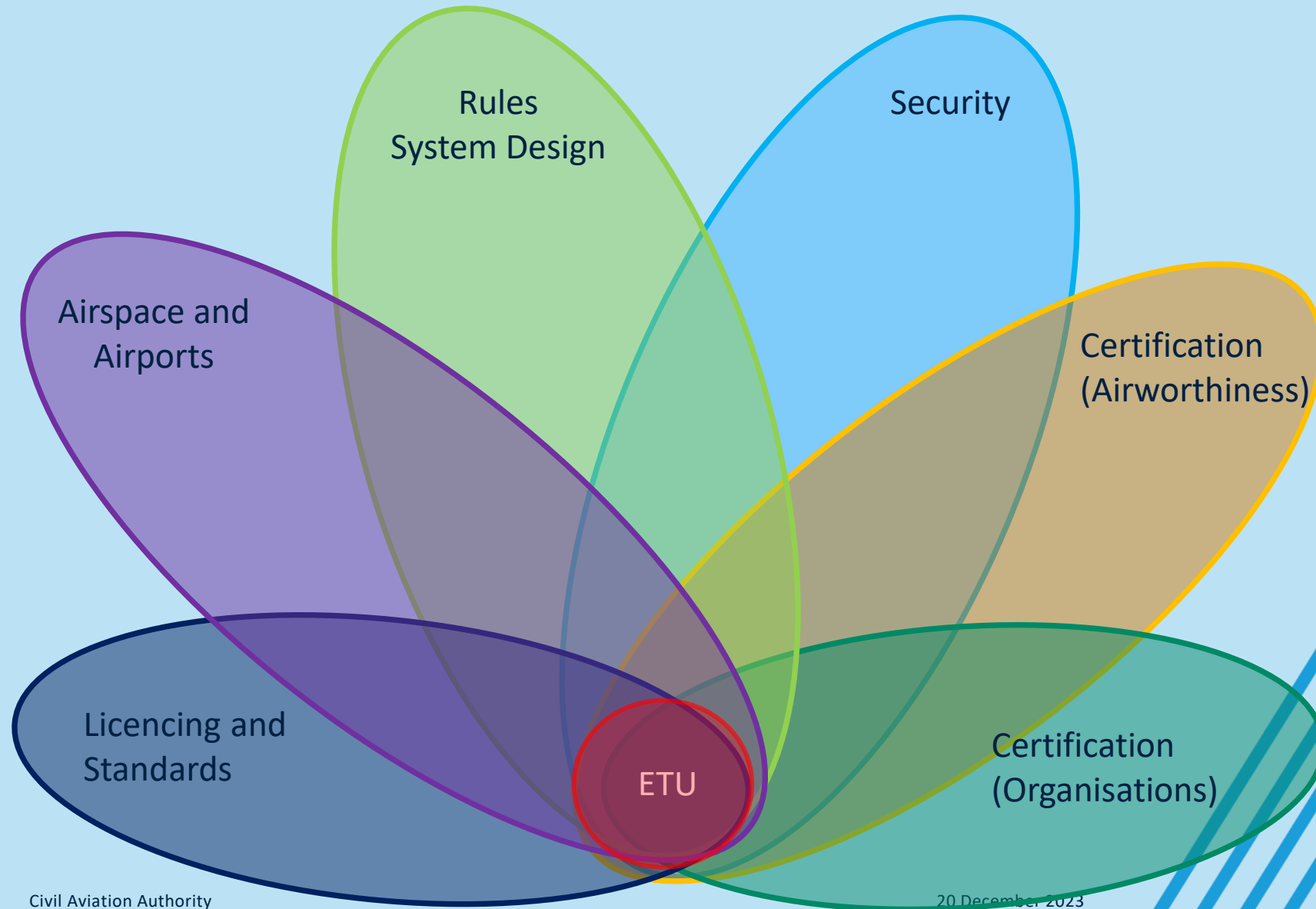
Any or all: Aircraft, Sub-systems, Use-case

- Hasn't been Certified or Approved before
- Is novel
- Is not routine
- NOT limited to UA

ETP within CAA



ETP – Another View



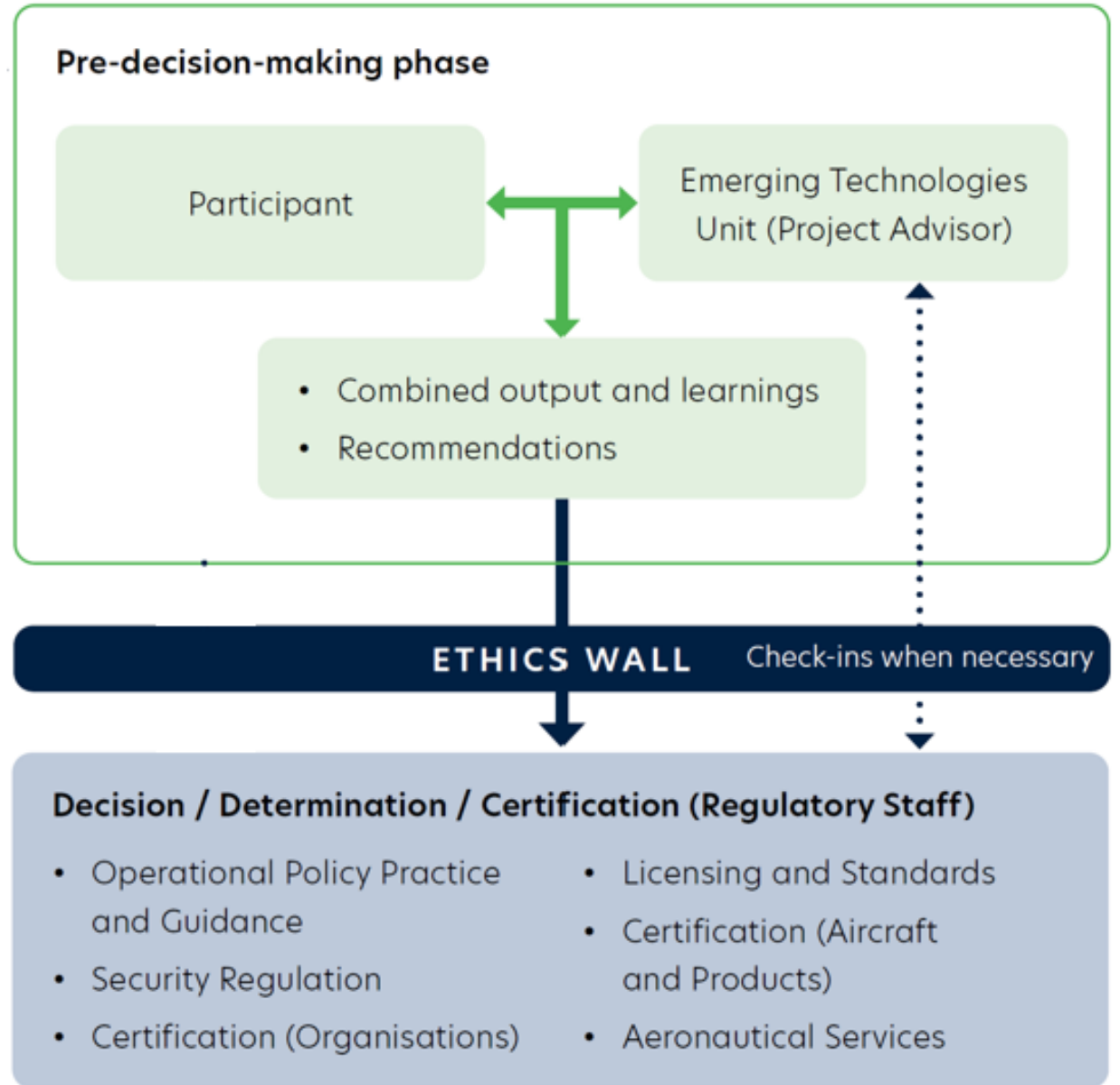
ETU Ways of Working

- Collaborate with innovator (Pre-Decision-making)
- Project Manage complex applications
- If necessary, explore new processes

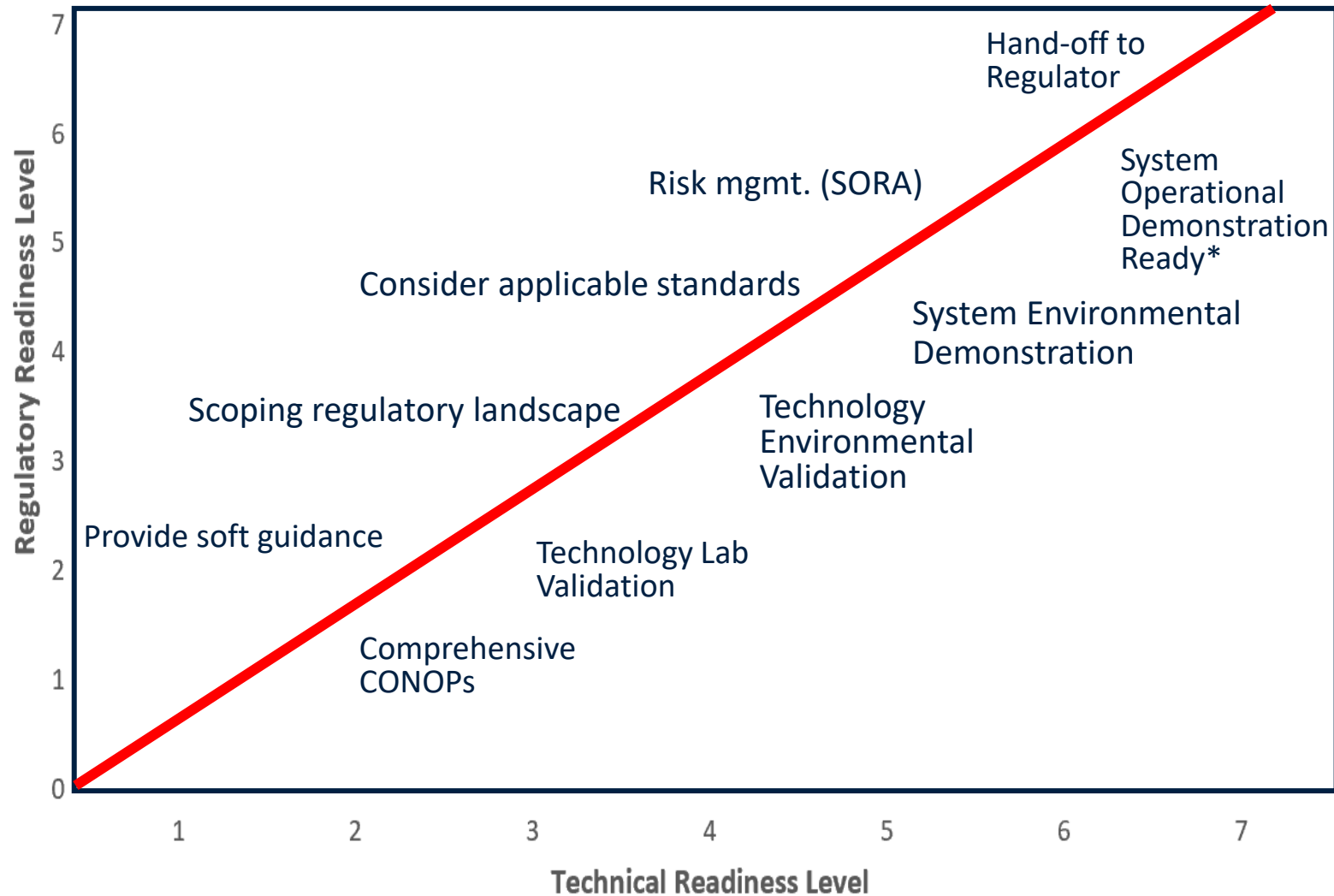
(ETU staff don't have legal decision-making powers and cannot interfere with decision-making)

New Collaborative Process with ETU

Existing Decision-making Process

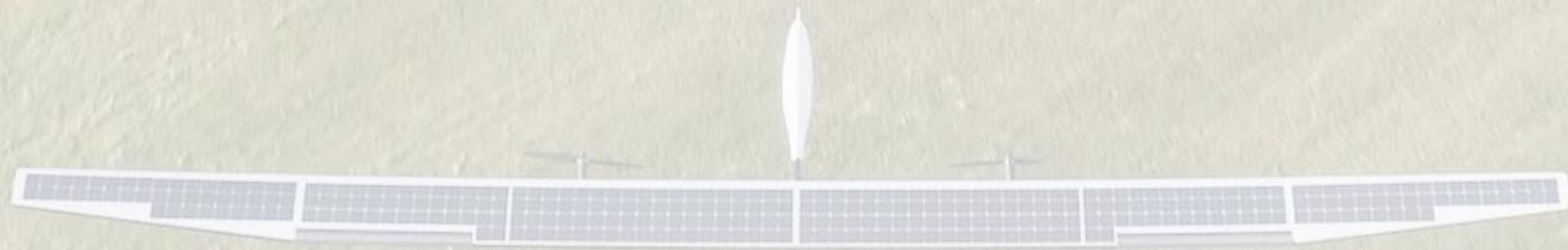


ETU Methodology



- Start with a well-developed CONcept of OPerations
- Without this, neither we, or innovator, will know what the goal is
- Methodically test and validate, consider the regulatory impacts regulatory assessment approaches

New applicants: Use waiting time to review the proposal and bring it up to maturity



Existing participants: Look over the horizon at the next phase of development, not the one currently being assessed



Emerging
Technologies
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External Engagement



Airspace Integration Trials
Programme



ETU Team

- Think of us as a ‘Programme Team’
- Based on UK CAA Innovation Hub and elements of New Southern Sky Programme

Steve Smyth Director ETP (Strategic)



Scott Griffith Dep Director ETP (Operational and Team Lead)



Allan Menard Proj Advr



Dan Broadhurst Proj Advr



Sophie Ray Proj Advr



Alex Chapman TEC



Reduced & Zero Emissions Project (response to Air NZ)

- Commercial demonstrator by 2026
- 3 clean sheet designs, 1 retrofit
- Multiple parts of CAA
- Rules and policy on alternate fuel and powerplant
- Licensing, Type Acceptance, Infrastructure, Routes etc



Wisk Ph 2 Flight Trials

- Integration of UA in controlled airspace

- Stepping-stone to self flying air taxis



- UA are not VFR; difficult to approve IFR
- No separation standards for non IFR or VFR in controlled airspace

Wisk Ph 2 Flight Trials

- Integration of UA in controlled airspace



- How to integrate using current rules?
- IFR equivalency for a bounded trial
- Must bring Airways along with the journey



Aquila – remote charging of aircraft with IR lasers

- Lab-proven technology
- Ready to move into field testing
- Begin with UA, move to passenger aircraft in due course
- Constellation - ‘Starlink’ for electricity

Contact

CAA THE CIVIL AVIATION AUTHORITY OF NEW ZEALAND Te Mana Rereangi Tūmatanui o Aotearoa

Aviation Security Service *Kaitiaki Māori Rereangi*

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Emerging Technologies Programme

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Licensing and certification

Address for service

Airhouse

The aim of the Emerging Technologies Programme is to act as a bridge between the CAA and our emerging technologies aerospace and aviation stakeholders, to provide the most effective ongoing regulatory interface possible, in order to enable the safe and effective introduction of emerging technologies into the civil aviation system. To enable this, we have

- [Emerging Technologies Programme | aviation.govt.nz](https://aviation.govt.nz/emerging-technologies-programme)



Contact, Comms, Engagement

- ETP contact form on CAA website
- [Emerging Technologies Programme | aviation.govt.nz](https://aviation.govt.nz/emerging-technologies-programme)
- Will be developed further for pro-active comms to avoid regular negative press
- Expect additional pro-active comms (unusual for CAA)



Questions