AVIATION WEEK PROGRAM EXCELLENCE AWARDS

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Thank you for participating,

GHamilton

Gregory Hamilton
President
Aviation Week Network

Acknowledged, agreed, and submitted by

Intan ______________________________ 24 June 2025__

Nominee's Signature Date

Nominee's Name (please print): Intan Fara Antasha Binti Zainal Aberdin

Title (please print): Manager Capability Development

Company (please print): Asia Pacific Aircraft Component Services (APACS)

NOMINATION FORM

Name of Program: ADIRU Project- Engineering Leadership in Action

Name of Program Leader: Intan Fara Antasha Binti Zainal Aberdin

Phone Number: 0358700591

Email: intan.zainal@apacs.aero

Postal Address: Jalan Keluli 15/16, Seksyen 15, 40200 Shah Alam, Selangor.

- [x] Customer Approved
  - Date: 26 June 2025
  - Customer Contact (name/title/organization/phone): Jan Paolo Rafael / Sr. Procurement Specialist / Air Philippines Corporation DBA PAL Express
- [ ] Supplier Approved (if named in this nomination form)
  - Date: ______________________________
  - Supplier Contact (name/title/organization/phone): ______________________________

PLEASE REFER TO PROGRAM EXCELLENCE DIRECTIONS AS YOU COMPLETE THIS FORM.

SECTION 1: EXECUTIVE SUMMARY

Make the Case for Excellence

Value: 10 points

Use 12 pt. Times Roman typeface.

What is the vision for this program/project? What unique characteristics and properties qualify this program for consideration?

The ADIRU Program represents one of the most ambitious engineering and facility development initiatives ever undertaken by APACS. With a multi-million-ringgit investment, the goal was clear from the beginning: to become the first and only provider in the region capable of repairing the Air Data Inertial Reference Unit (ADIRU), a highly complex and safety-critical navigation component. This vision drove every decision, from transforming an 8,000-square-foot warehouse into a purpose-built repair center, to integrating a MYR 10 million test stand, and realigning our engineering operations to support this capability long-term.

This submission fits the Supplier System Design and Development category due to the nature of the program's execution. Rather than relying on a turnkey solution, the initiative was driven through internal design, system adaptation, and supplier integration. The program involved the coordination of multiple suppliers and OEMs, including Honeywell and Spherea, each with their own technical standards and equipment requirements. Facility layout, infrastructure upgrades, and system commissioning were all developed around these specifications to ensure compatibility, reliability, and long-term scalability.

What distinguishes this program is the scale of integration and the level of complexity managed across disciplines and vendors. The entire system was brought online through structured coordination, technical leadership, and sustained commitment to precision. Every element, from compressed air to high-voltage supply to fire protection, had to meet aviation-grade requirements while synchronizing with supplier timelines and equipment interfaces.

Today, the ADIRU facility is fully operational and certified, delivering a capability that did not exist in the region prior to this program. It stands as a flagship example of system-level thinking, supplier-driven development, and strategic engineering that directly supports the future of regional aviation maintenance.

DIRECTIONS

- **Do not exceed 10 pages in responding to the following four descriptions**.
  - Allocate these 10 pages as you deem appropriate, but it is important that you respond to all four sections.

- DO NOT REMOVE THE GUIDANCE PROVIDED FOR EACH SECTION.

- Use 12 pt. Times Roman typeface throughout.

- Include graphics and photos if appropriate; do not change margins.

SECTION 2: VALUE CREATION

Value: 15 points

Please respond to the following prompt:

➤ **Clearly define the value of this program/project for the corporation; quantify appropriately**

The ADIRU Project represents a strategic leap in APACS' long-term growth and repair capability expansion. The successful execution of this program marks the company's first entry into the repair of navigation systems, a high-value and high-complexity domain previously not offered in-house.

This initiative involved transforming an 8,000 sqft warehouse into a fully equipped ADIRU repair facility, incorporating a MYR 10 million test stand specifically designed for this critical component. A new FAA rating was successfully obtained—distinct from existing EASA certifications—requiring new technical assessments, facility audits, and operational controls.

What sets this program apart is not just its technical outcome, but the execution approach. Rather than outsourcing construction through a turnkey model, the project was delivered through a self-managed strategy, enabling tighter control over cost, schedule, and quality. This decision resulted in projected cost savings of up to MYR 1 million, while setting a scalable foundation for more than 200 part numbers and a broader realignment of the Electrical and Avionics shops.

➤ **Clearly define the value of this program/project to your customer**

This program directly addresses a critical need within the Southeast Asian aviation sector. Prior to this capability, ADIRU units—being highly specialized and safety-critical—had to be sent overseas for repair, resulting in higher costs, longer turnaround times, and additional logistical complexity for regional airlines.

By establishing this capability locally, APACS becomes the only provider in the region offering ADIRU repair services, significantly shortening turnaround times and reducing total lifecycle costs for customers. The investment in dedicated infrastructure and tooling demonstrates a long-term commitment to supporting the operational reliability of airline fleets, with the added advantage of localized support and faster responsiveness.

The project execution ensured that this customer value was delivered not only through capability, but through disciplined scheduling, regulatory alignment, and readiness—all while maintaining high standards of quality assurance and risk mitigation.

- **Clearly define the value of this program/project to members of your team; quantify if possible**

One of the most valuable byproducts of this program has been its impact on team development and cross-functional collaboration. The self-managed approach required coordination across multiple internal functions—including engineering, maintenance, electrical infrastructure, fire safety systems, and test integration—enabling over 20 staff to take on expanded responsibilities and participate in key decision-making processes.

The team was exposed to advanced test technologies and stringent FAA requirements, providing them with new skills in project execution, system commissioning, and regulatory compliance. The result is not only a new facility, but a more capable and confident team, better prepared for future complex programs.

This program created a replicable model for internal collaboration that has elevated overall team maturity and readiness for strategic growth initiatives.

- **Clearly define the contribution of this program/project to the greater good (society, security, etc.)**

Navigation systems such as the ADIRU are central to aircraft safety, providing critical flight data for operations ranging from takeoff to landing. By establishing a regional repair capability, this program strengthens the aviation infrastructure in Southeast Asia, supporting safer skies and higher operational reliability across commercial fleets.

This is the first time APACS has entered the navigation component domain, and the program was executed with a high level of responsibility, regulatory rigor, and quality assurance. The capability directly contributes to the aviation ecosystem by improving turnaround time for safety-critical components, reducing operational risk, and enabling airlines to maintain aircraft more efficiently.

In doing so, the program supports broader goals of public safety, industry resilience, and national readiness in aviation support services.

SECTION 3: ORGANIZATIONAL BEST PRACTICES AND TEAM LEADERSHIP

Value: 35 points

Use 12 pt. Times Roman typeface

Please respond to the following prompts:

- ***15 points:*** **Describe the innovative tools and systems used by your team, how they contributed to performance and why**

To manage the complexity and scale of the ADIRU Project, the team implemented a suite of innovative tools and systems that significantly enhanced execution performance. Microsoft Project was used to develop a detailed schedule, identify critical paths, and manage interdependencies across all workstreams. This ensured project milestones were met and allowed for real-time visibility into progress, helping to keep stakeholders aligned throughout the lifecycle. Engineering simulation and test stand integration software provided by the ADIRU test stand OEM was used to model system behavior and test interface compatibility. These early simulations were instrumental in identifying and mitigating potential integration risks prior to commissioning, thereby reducing delays and costly rework.

Cross-functional collaboration was facilitated through centralized digital platforms, which enabled seamless document sharing, meeting coordination, and decision-making among engineering, construction, and vendor teams. Facility planning was further supported through tools like Visio, which provided clear layout visualization and aided in utilities coordination. The team also adopted an Agile-inspired cadence, holding biweekly sprint planning sessions and reviews to drive fast, responsive decision-making. This approach proved critical in working closely with OEMs such as Honeywell and Spherea to align on technical requirements and rapidly address evolving challenges. Altogether, these tools and systems enabled the project to maintain strong momentum and deliver a highly technical facility within scope, budget, and timeline.

- ***10 points:*** **Define the unique practices and process you used to develop, lead and manage people?**

A unique and intentional leadership approach was adopted to manage this multifaceted project, blending Agile principles with a strong focus on team development and cross-disciplinary collaboration. Although the environment was not software-based, the team applied Agile methods by structuring work into two-week sprints, using visual Kanban boards to track task progress and blockers, and conducting regular stand-ups to ensure continuous alignment. This iterative approach created a rhythm of accountability and adaptability, which was essential in meeting tight construction and integration deadlines.

In parallel, knowledge-sharing was embedded into the execution process. Given the involvement of multiple disciplines—electrical, mechanical, avionics, and facilities, engineers were encouraged to broaden their understanding of adjacent systems through structured learning sessions. Junior team members were mentored to grow not just within their technical scope, but to appreciate the full interdependency of the project. Leadership fostered a culture of transparent communication, where team members were empowered to raise issues, contribute ideas, and request support without fear of judgment. Weekly alignment meetings, supported by collaborative platforms, ensured everyone remained informed and engaged. To reinforce a positive team culture, recognition was given in real-time, not just at major milestones, and a feedback loop was implemented at the end of each sprint to reflect on what could be improved. These practices helped build not only technical competency but also team resilience, cohesion, and shared ownership of the project's success.

- *10 points:* **How did you leverage skills and technologies of your suppliers?**

The success of the ADIRU Project was strongly supported by the strategic integration of supplier expertise and technology throughout the program. From the earliest planning stages, suppliers particularly the ADIRU test stand OEM, were engaged to provide technical input on infrastructure design, integration sequencing, and operational requirements. This early collaboration ensured alignment on key interfaces and avoided costly rework during later stages.

As the project progressed, the relationship evolved into a co-engineering model, with technical sessions and training programs held both at the supplier's site in France and on-site in Malaysia. Engineers were trained not only to operate and calibrate the ATEC7 machine system but also to maintain the test stand infrastructure, while technicians focused on mastering product-level servicing. These knowledge transfer sessions significantly upskilled the internal team and allowed for a confident transition into post-commissioning operations. Rather than defaulting to standard solutions, the team worked closely with suppliers to tailor system functionality and facility layout to fit APACS' operational needs and long-term scalability goals. Regular progress reviews, technical checkpoints, and collaborative troubleshooting sessions ensured accountability and sustained momentum throughout the integration process. By treating suppliers as long-term partners, rather than just vendors, the project benefited not only from robust equipment delivery but also from technical insights and a shared commitment to building lasting ADIRU capabilities at APACS.

SECTION 4: DEALING WITH PROGRAM COMPLEXITY

(VOLATILITY, UNCERTAINTY, COMPLEXITY, AMBIGUITY, or VUCA)

Value: 25 points

Use 12 pt. Times Roman typeface

Please respond to the following prompts:

10 points: **Describe UNIQUE areas of VUCA faced by your program and why. (Please avoid the issues surrounding Covid-19 pandemic, which was faced by all programs.)**

Volatility

The program faced significant volatility due to the unpredictable timelines associated with export control approvals for the ADIRU test stand and related components. Each unit required an individual export license, and the processing time for approvals, particularly the 12-week review cycle by the Bureau of Industry and Security (BIS), was highly variable. These fluctuations disrupted the original project flow, affecting the delivery of hardware, documentation, spare parts, and supplier training. Any delay in one license had the potential to impact multiple downstream activities, creating an unstable planning environment.

Uncertainty

A key area of uncertainty lay in the export licensing process itself. Despite proactive communication with the supplier, the team had limited visibility into the internal decision-making timelines of external regulatory bodies. This made it difficult to forecast with confidence when key equipment would ship or when training materials and certification documents would be available. The interdependence of these elements meant the team had to build contingency buffers without knowing exactly when or how issues would resolve.

Complexity
Beyond regulatory hurdles, the program involved the transformation of an 8,000 sqft warehouse into a sophisticated ADIRU repair facility. This required the integration of multiple technical systems including electrical, civil, HVAC, compressed air, and fire protection, each with its own specifications, installation requirements, and dependencies. Coordinating these disciplines under tight timelines, while aligning with OEM equipment needs and aviation compliance standards, introduced a high degree of technical and logistical complexity to the execution.

Ambiguity
The export control landscape presented layers of ambiguity, particularly with respect to licensing criteria and documentation requirements that shifted based on hardware classification or destination. There were instances where information from different stakeholders (supplier, licensing body, internal compliance) conflicted, leading to unclear decision paths. Furthermore, the novelty of working with such a system, being APACS' first project involving navigation component repair, meant the team was frequently required to interpret vague or evolving requirements and make judgment calls without precedent.

- ***15 points:*** **Explain how your team responded to these challenges. What changes did you make, what were the results?**

In response to the volatile, uncertain, complex and ambigue nature of export control approvals, the project team adopted a proactive and adaptive strategy that helped protect the integrity of the commissioning schedule. Early engagement with the supplier allowed the team to fully understand licensing requirements and anticipate challenges before they could impact critical-path activities. With strong support from senior leadership, including Martin Urwyler, the Managing Director and Eddie Chin, the Head of Engineering; the project team was empowered to adjust internal timelines and workflows to stay flexible while awaiting external clearances. This executive support created an environment of trust and agility, enabling fast internal coordination once export licenses were received.

To ensure the facility would be ready for immediate commissioning, the team worked across disciplines to align construction milestones with the arrival of the ADIRU test stand. Detailed coordination was carried out to meet technical requirements related to environmental control, electrical specifications, and infrastructure readiness. Dry runs and simulation testing were conducted in close collaboration with the supplier prior to the equipment's arrival, which allowed for early validation of systems and processes. During the supplier's on-site presence, the team took full advantage of the opportunity to conduct cross-training, ensuring that internal engineers developed the capability to operate, calibrate, and maintain the test stand independently.

This integrated approach ensured that the ADIRU test stand was successfully commissioned on the first attempt, within days of delivery, and became operational ahead of schedule. By maintaining alignment between technical readiness and regulatory timelines, the project team was able to deliver a fully functioning, high-complexity repair facility under conditions of uncertainty and complexity. The program now serves as a benchmark for effective cross-functional execution within a constrained and regulated environment.

SECTION 5: METRICS

Value: 15 points
Use 12 pt. Times Roman typeface

Please respond to the following prompts, where predictive metrics indicate items that provide a view of how yestrday's actions and today's actions will affect the future timeline, cost or other requirement.

Provide charts/graphs that illustrate performance to these metrics:

- **What are your predictive metrics?**

  The ADIRU Program at APACS was established with a clear strategic objective: to position the organization as the first and only ADIRU repair provider in the region, providing regional operators with access to a highly specialized capability that had previously been limited to overseas facilities. To meet this goal, the team developed a set of predictive metrics that would indicate program readiness well before final delivery.

  The first key metric tracked the completion of facility infrastructure tailored to the ADIRU test stand requirements, including electrical, environmental, and system layout readiness. The second predictive metric focused on regulatory progress, particularly the new FAA rating required for the ADIRU part numbers. While APACS already held FAA and EASA certifications for other components, the ADIRU system fell under a different category, triggering a new assessment process by the FAA. Monitoring the timeline and preparedness for this audit was critical. A third metric involved internal capability readiness, measuring the training progress of engineers and technicians who would be responsible for maintaining both the equipment and the product post-commissioning. Together, these metrics provided visibility into technical, regulatory, and operational preparedness, allowing the team to anticipate issues and take corrective action early.

- **How did you perform against these metrics?**

  The ADIRU program delivered successfully across all identified predictive metrics. The transformation of the 8,000 square foot warehouse into a specialized ADIRU repair facility was completed on schedule, with all supporting infrastructure including power, cooling, and environmental systems, meeting the technical criteria for test stand commissioning. The team achieved FAA certification for the new ADIRU rating following a successful assessment, meeting all audit requirements within the planned timeframe. This was a key milestone, as the certification validated both the facility and the team's ability to support ADIRU repairs under stringent aviation authority standards.

  Training targets were exceeded, with engineers completing hands-on instruction at the supplier's facility in France and receiving on-site guidance during the system's integration phase. As a result, APACS' internal team was fully capable of operating and maintaining the ADIRU test bench from the moment it went live. Export control timelines were also managed effectively, with licenses and documentation secured in time to prevent delays to commissioning. The test bench was installed, calibrated, and commissioned successfully on the first attempt, and became operational ahead of schedule.

- **How do your predictive metrics drive action toward program excellence? Please provide examples.**

The predictive metrics helped ensure the ADIRU facility would be operational on schedule and fully capable from day one. When early tracking revealed a risk to facility readiness, the team restructured priorities to fast-track infrastructure aligned with test stand requirements. Internal training progress was also closely monitored, prompting early deployment to France for hands-on experience and on-site vendor support to close remaining gaps.

Export control lead times were treated as a leading indicator of disruption. By identifying this early, the team adjusted the commissioning flow to maintain momentum while licenses were pending. These actions, driven by predictive metrics, allowed APACS to commission the system successfully on first attempt and become the first ADIRU repair provider in the region, delivering excellence through anticipation, agility, and execution.