

2025 Annual Report **DIFI**

The Future of Interoperable Digital IF Takes Shape

Looking back at 2025, DIFI members can be proud that their support and hard work have given the digital IF standard a big push forward and driven its early adoption by vendors and operators. In this report, we share with you the headline achievements of the year and insights into the behind-the-scenes work of dedicated DIFI members.

Announcements and Events

Working Groups. DIFI Forms Digital Ground Certification Working Group to help define performance testing for digital ground systems • **New Program.** DIFI Announces Launch of New Certification Program, to certify and ensure members products actually interoperate as expected. • **New Version 1.2.1.** DIFI's Specification Working Group released [Version 1.2.1 of the DIFI Standard](#) in March. The new version of the Standard is a significant improvement in the areas of sync and flow control over the previous version. • **New Version 1.3.0.** DIFI's Specification Working Group released [Version 1.3.0 of the DIFI Standard](#) in August. Key features were in-band link establishment, new set of information classes, Link Establishment Query and Response. ESA WG completed and released a comprehensive requirements document to help optimize ESA operations in digital ground systems.

Third Plugfest. September also saw DIFI hold its third PlugFest at the WORK Microwave offices in Holzkirchen, Germany with a record number of companies participating. Stress-testing interoperability among vendor gear, the PlugFest tested vendor systems under version 1.2.1 of the Standard. Nearly 90% proved their ability to communicate, providing real-world validation of multi-vendor interoperability.

MILCOM 2025. [DIFI's Digital Transformation workshop at MILCOM](#) attracted a big audience of first-timers, who were eager to know more about the evolving standard. They came away with information on version 1.2.1, version 1.3.0, and the analog IF-to-DIFI transition, as well as techniques for virtualizing and digitizing MILSATCOM. For MILCOM, the DIFI workshop has become a vital hub for technical collaboration, presented by technical experts for a technical audience.

DIFI Marketing

In 2025 DIFI leveraged email and social media campaigns to increase outreach and awareness, and also provide education through **Webinars:** [DIFI Webinar: Standard 1.2.1 – The Next Evolution in Digital Ground](#) • [DIFI Webinar: How to Get the Full Value of Your ESA](#)

DIFI published more than 30 **VLOGs** on topics covering The Value of DIFI Membership, The Value of the DIFI Standard, DIFI Specification Release Standards, the Value of attending the PlugFest and the Value of attending the MILCOM Workshop.

Behind the Scenes and in the Works

Looking ahead, DIFI's Board and working groups have been working towards milestones and events taking place throughout 2026. They included:

Release of Version 1.4.0, planned for 2026 and integration of Information Classes. According to the Specification Working Group, the 1.4.0 release will cover Error Feedback, Cyber Security, ESA Control and TDMA.

Information Classes

As the DIFI standard continues to mature, the focus is shifting away from rigid version release numbers toward a more of a capabilities-based versioning system based on information class support. Rather than asking “Which version are you running?”, the more meaningful question becomes “Which information classes do you support?” This approach better reflects how DIFI is implemented in real-world systems—where capabilities evolve incrementally, interoperability is driven by shared data models, and backward compatibility matters. By emphasizing information class support, DIFI enables clearer interoperability expectations, smoother integration across vendors, and faster adoption of new capabilities without forcing disruptive version upgrades.

Use Case Webinar Series. DIFI will launch a series of Webinars exploring [DIFI IF Use Cases](#). The first webinar, *Data Security: Reducing Encryption Costs and Complexity*, takes place February 17 at 11:00am EST. Webinars will provide opportunities for members to participate as panelists across various industries that stand to benefit from IF interoperability.

Certification testing. In March, DIFI announced the launch of its eagerly awaited Certification process, beginning with a self-certification test, and the successful completion of product tests by Keysight Technologies and Kratos Defense & Security Solutions. In this first phase of the program, companies run specified DIFI tests and submit the results to the Certification Working Group, led by Wavestream's principal engineer Keith King, for validation of compliance. As the year progressed more companies had products certified through this process including Evertz.

Plugfest 4. DIFI is working to confirm a location and date, but it will likely be in early summer or early fall 2026. The location and exact dates should be announced soon.

MILCOM 2026. DIFI will once again hold a Digital Transformation workshop at MILCOM 2026. MILCOM 2026 takes place October 12-16 in North Bethesda, Maryland.

DIFI Marketing

RFP Template. DIFI will soon release an RFP Template, which will provide a reusable example of how to request DIFI Compliance from Vendors.

Leverage DIFI to promote your DIFI compliant products. DIFI members are encouraged to submit DIFI related articles, case studies, white papers and DIFI compliant products to be featured on the DIFI LinkedIn page.

Progress for DIFI

The consortium has continued to see strong membership growth and industry support, reaching +60 members last year, ranging from NATO, AWS, Hughes, the US Navy and Space Force to such innovators as HawkEye 360, Kymeta, Keysight Technologies and ThinKom. New members in 2025 included Celestia Antwerp, Filtronic and Bittware.

Working Groups. DIFI thanks the leaders and contributing members of its working groups for all the progress of 2025 and the exciting plans for 2026:

Specification Working Group

Chairs: **Simon Swift** of ETL Systems and **John-Paul Szczenpanik** of ALL.SPACE

The Specification Working Group has been making great progress on the DIFI Standard. For those of you who have been following along or attended the monthly meetings, DIFI announced and posted its newest release v1.3.0 of its interoperability standard (IEEE-ISTO Std 4900-2021). The 1.2.1 version was tested and reviewed during the DIFI PlugFest held in Germany on 8-11 September this year. Findings from the PlugFest were presented at the October 6th DIFI Workshop MILCOM event.

Moving forward this year and into next year the Specification Working Group meeting focus will focus on its Roadmap and the PlugFest for the v1.3.0 release.

Certification Working Group

Chairs: Anmarie Stanley of Kratos and **Todd Reinking** of Welkin Sciences

In March, DIFI announced the launch of its eagerly awaited Certification process, beginning with a self-certification test, and the successful completion of product tests by Keysight Technologies and Kratos Defense & Security Solutions. **Keith King** of Wavestream completed his service as chair of the Certification Working Group in Mid-2025. A big thanks to Keith and his years of service to this committee.

ESA Working Group

Chairs: Jeremy Turpin of ALL.SPACE and **Ryan Stevenson** of Kymeta

The DIFI ESA Working Group made steady progress toward defining recommendations to support advanced ESA antenna capabilities in conjunction with DIFI waveform transport. The group met monthly throughout the year, holding 11 meetings. Key outreach activities included a MILCOM briefing and status update, as well as a DIFI webinar focused on ESA Working Group topics.

In 2025, the ESA WG completed and released a comprehensive requirements document to the DIFI Board and broader consortium. This document outlines the features and capabilities needed to fully enable ESA performance when integrated with DIFI. As part of this effort, the group proposed multiple changes to DIFI 1.3 to the Specification Working Group. Revision 3 of the requirements document was released in August 2025. Using the requirements as a baseline, the ESA WG evaluated existing M&C-related protocols—including OpenAMIP, DIFI, KAMP, and VITA 49.2—to identify gaps between current protocol capabilities and ESA operational needs. By the end of 2025, the group had nearly completed this analysis and began preparing formal recommendations to the Board, including proposed changes to DIFI and potential extensions to OpenAMIP.

Digital Certification Working Group

Chair: Dan Hannan of Sagittek

The working group focused on aligning Digital Ground testing methodologies with MIL-STD-188-165 and MIL-STD-188-164 requirements, while maintaining regular touchpoints with U.S. Government stakeholders throughout the year. Key discussions addressed SATCOM Performance Certification approaches and how those requirements intersect with the DIFI Standard.

The group also coordinated development of an NDAA issue paper with the DoD CIO and DISA, and worked with DISA on a pathway to adopt the DIFI Standard as a NATO STANAG.

Board of Directors. The working groups report to a [10-member Board for DIFI](#), which includes:

- **Stuart Daughtridge** of Kratos (Chairman)
- **Simon Swift** of ETL
- **Trond Vegard Rokstad** of KSAT
- **Ryan Stevenson** of Kymeta
- **Sunil Gottipati** of SES
- **Jörg Rockstroh** of WORK Microwave
- **Phil Lorch** of Keysight Technologies
- **Jim Rosenberg** of Wavestream
- **Dan Hobel** of SSC Space
- **Mark Jasen** of Genus Group

DIFI will hold elections for 3 at-large Board seats and the Board Chairman during the summer of 2026. The at-large Board seats have 2-year terms and the Chairman serves a 3-year term.

DIFI Member ARKA, will be joining the Board as permanent member in 2026.

About DIFI

The [Digital Intermediate Frequency \(IF\) Interoperability Consortium](#), or DIFI, has created a standard that enforces interoperability on digital IF/RF technology. Digital IF was developed to overcome the limitations of analog systems but, today, vendor lock-in prevents it from delivering seamless interoperability and severely limits its adoption. A truly interoperable digital IF, on the other hand, will enable transformation to a virtualized ground segment, reducing the total cost of ownership and significantly boosting network and terminal agility and scalability. Compliance with the DIFI standard will ensure that satellite ground segments can seamlessly adapt to rapidly changing space-layer payloads, orbits, and constellations. Ultimately, DIFI promises to elevate the resilience, performance, and capabilities of satellite networks and enable a digital transformation that integrates satellites seamlessly into the larger telecom, IT and GIS markets.