The course is designed to give NATO Deployable CIS (DCIS) Operators confidence in securely operating and maintaining with the NATO Response Force (NRF) DCIS Invitation for Bid 1 (IFB 1) “Dragonfly” to support Communications Services (ComS) supported by DCIS. Operators will learn to integrate Wired Local and Wide Area Transmission Services and how it integrates with Wireless Transmission Services. To securely and efficiently operate the system, students will apply select Information Assurance Service aspects within the NATO Consultation, Command and Control (C3) Taxonomy in federated mission networks.

This upgraded course covers intra-node services and operator-level inter-node Communication Services (previously covered in Course 913).

Training will enable students working at Operations and Maintenance (O&M) Levels 1 and 2. Successful students may request operator-level Service Management and Control (SMC) privileges on NATO networks, following the established procedures.

This is the Communications Services element of the Dragonfly System Level courses; it may be conducted in conjunction with the Core Enterprise Services (CES) element (Course No 910) to support Crew Training.

This course is a System category course and should be considered after the pre-requisites and before the Special category specified, as illustrated, below:
4. Learning Objectives

Given pre-requisites – see paragraph 16 – upon completion of the course, the qualified student will be able to:

- Describe the context of NATO Services in DCIS, and how this capability / system fits within this structure.
- Describe the context of Federated Mission Networking (FMN), and how DCIS and this capability / system fits within this structure.
- Describe the technical elements of this capability / system and relate his or her networking technology experience to NATO Communication and Transmission Services.
- Describe and use NATO SMC procedures and tools and their relevance to this capability / system and DCIS in federated networks.
- Demonstrate the use of select NATO SMC tools at intra-node and inter-node Operator Level.
- Define the concept of converged Communications Access and Communication Transport Services on networks, security domains and NATO security (e.g. system hardening).
- Investigate and illustrate this capability / system’s configurations and Transmission Service integration.
- Analyse and determine issues with this capability / system Communication Service components like routers and switches.
• Describe the CES Unified Communications and Collaboration Services supporting solution and how it interfaces to the NATO network. Configure end devices supporting this collaboration.

• Define the protocols and configuration techniques required to establish a multimedia CES Unified Communications and Collaboration (e.g. Video Teleconferencing and the Public Address System) within the environment of this capability / system.

• Describe the Communication Services supporting CIS Security Services solution and how it interfaces to the NATO network. Configure CIS Security Services devices supporting secure intra-node and inter-node communication.

• Describe select the features of more advanced Packet-Based Transport Services (e.g. Tunnelling and Quality of Service - QoS) within this capability / system and broader DCIS environment.

• Apply practical testing, bringing together the two sub elements of this capability / system (Communication Services and select CES) to integrate all, establishing services from this capability / system to the Operations Gateway and between two systems.

5. Qualification

Upon completion of the course, students will be qualified to support NATO DCIS Exercise and Operations operating this capability and supporting Engineers.

Successful students may request privileges on NATO DCIS Networks through their assigned unit and using the established procedures with NCI Agency.

6. Student Criteria

The student will be accepted on the course if he/she meets all of the following requirements:

1. Be assigned to a NCS or NFS HQ or unit where the relevant NATO DCIS Services will be employed on operations and / or exercises;

2. The Student shall meet the Background Knowledge Prerequisites for this course (see paragraph 16).
7. Rank

- Selected Officer
- NCO in an Engineering Support Function
- Civilian equivalent

8. Language Proficiency

According to STANAG 6001: English SLP 3332

9. Security Clearance

NATO Secret (Students must provide proof of clearance upon registration)

10. Course Length

15 working days (3 weeks of 5 days, each)

11. Special Instructions

Students not meeting the assignment and background knowledge criteria may attend ONLY with the explicit recommendation of the NCI Agency Network Services and IT Infrastructure (NS & II) Service Line DCIS Service Operations Manager, provided they have met the security clearance requirement.

12. Class Size (Maximum/Recommended/Minimum)

6/6/4

13. Nomination Procedure

As posted on www.nciss.nato.int
Airbus Defence & Space produced NRF DCIS Introduction Computer-Based Training (CBT) – to be requested through the NCI Agency NS &II DCIS Service Owner where not yet delivered.

The course is conducted at the NATO Communications and Information Systems School (NCISS), Latina Italy.

**Essential Prerequisites:**

- Have passed:
  - NCISS DCIS Network Foundation Courses (964+967 and 966+968)
  - NCISS Course 236 *with* 3 months of NATO DCIS Experience
  - Possess Cisco Certified Network Associate Routing and Switching (CCNA R&S) equivalent knowledge, skills and experience *with* 3 months of NATO DCIS Experience *AND*
  - Have passed the Foundation Level NCISS course 095 or possess equivalent Voice over IP (VoIP) knowledge, skills and experience *AND*
  - Should be working in a DCIS or DCIS supporting environment.

**Desirable Prerequisites:**

- The student should have completed a Deployment Training at their unit location, to include safe handling of equipment (e.g. as On-the-Job Training) on this capability / system before attending this course.

**17. Modules**

The following modules will be covered and include both theory and practical, hands-on lessons:

- Introduction to the capability / system in the NATO DCIS Federated Context (lecture)
• Introduction to the capability / system hardware and media (lecture and lab)
• Frame- and Packet-based Access and Distribution Service devices, protocols and configuration (lecture and lab)
• Packet-based Transport Service devices, protocols and configuration (lecture and lab)
• Daily capability / system functionality checks (lecture and lab) with Q&A session
• Information Assurance on Communication Service devices and protocols (lecture and lab)
• Operation, Maintenance and SMC on Communication Service devices (connection, backup/restore, troubleshooting – lecture and lab)
• Medium to Advanced communication protocols and concepts (lecture)
• End-of week practical exercises (labs)
• Introduction and configuration of CES Unified Communication and Collaboration Service devices and protocols (lecture and lab)
• Introduction and configuration of CES end-user devices for voice and video (lecture and lab)
• Final Exam (theory)
• Final Exam (practical) and optional Crew Exercise establishing CES, Communications Services