Introducing the NCI Academy

NCI ACADEMY

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Introducing the
NATO Communications and Information Academy

As the world continues to innovate, we keep facing new security challenges. Therefore, the training and education methods of the Alliance have to keep developing to meet these challenges.

From 2014 onwards, the NCI Agency progressively merged its education and training services which culminated in 2019 with the creation of the NCI Academy. This unified reorganization included a thorough review of the entire training service catalogue to align with training needs and constant technological evolution, and to ensure a cutting-edge training delivery capability.

Merging education and training services has resulted in more efficient collaboration to provide C4ISR and cyber security training to NATO and national staff. As a unified service line, the NCI Academy, we can prepare for future developments in the Alliance's Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and cyber security education, and standardize the customer funding system for our entire course catalogue. Moreover, we can also explore new opportunities together to create a network of instructors to support the growing demand for C4ISR and cyber security training.

Foreword by NCI Agency General Manager, Kevin Scheid

The NCI Academy is a pioneering venue for civilian and military staff from across the Alliance to advance their Communications and Information Systems (CIS) and cyber security skills. Constructed at our new flagship Education and Training (E&T) delivery location in Oeiras, Portugal, the Alliance has invested in a cutting-edge E&T service that is optimized to meet their particular requirements – "Smart Training for Smart Defence".

"Smart Training" requires a new approach, an evolution of the static hands-on classroom training environment, to one that is more flexible, agile and adaptive. The NCI Agency's talented staff are at the centre of the development and delivery of CIS and cyber E&T, and exploit the latest digital technologies, tools and techniques to deliver E&T where and when required, most efficiently and effectively.
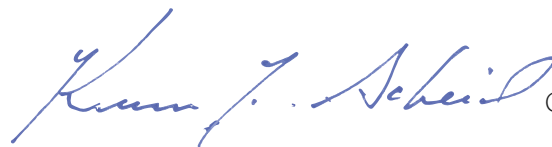
The NCI Academy will transform how NATO's workforce learns and will play an instrumental role in driving NATO's digital transformation. Students trained by our new Academy will go on to protect and defend NATO's IT and communications systems within the air, land, maritime, space and cyberspace domains.

In 2011, NATO Heads of State and Government decided to close our NATO Communications and Information Systems School (NCISS) to streamline NATO's training facilities. We have used this decision as an opportunity to reorganize our efforts and rethink our approach to learning.

We merged four NCI Agency schools and training entities (Latina, Glons, Mons and The Hague) to form a single effective E&T service provider, and expanded our curriculum to include cyber security and implemented new ways of learning, i.e. micro- and e-learning, virtual classrooms, augmented reality and the new NCI Agency Learning Management System.

We will continue to educate and train the Alliance at our new Academy. We have the trust and support of the Nations, and an outstanding mission to deliver technology that will amplify the world's most successful political and military Alliance.

Our Academy, then, is not merely a reboot of the NCISS. It is an entirely new operating system: NCI Academy version 1.0. This brochure contains some basic information on who we are and what we do, however, since we are a rapidly evolving, flexible and responsive organization, I would urge readers to consult our webpage **https://www.ncia.nato.int/academy** for the most recent information about our CIS and cyber education and training services and facilities.

Kevin J. Scheid,
General Manager

"The NCI Academy will transform how NATO's workforce learns and will play an instrumental role in driving NATO's digital transformation."

About the NCI Agency

The NATO Communications and Information Agency (NCI Agency) is NATO's technology and cyber arm. The NATO Nations established the NCI Agency in 2012, in order to bring about greater efficiency and effectiveness in the delivery of IT services and capability development across NATO and the Alliance.

As NATO's technology and cyber hub, the Agency cooperates with industry and academia to provide C4ISR technology to NATO and its Allies.
The Agency acquires, deploys and defends communications systems for NATO's political decision-makers and Commands.

The Agency delivers advanced C4ISR technology and communications capabilities in support of Alliance decision-makers and missions. This includes the acquisition of technology, experimentation, the promotion of interoperability, systems and architecture design and engineering, as well as testing, technical support and training.

Areas of expertise

- Command and control services
- Operational analysis and defence planning
- Air and missile defence command and control
- NATO's consultation and command networks
- Joint intelligence, surveillance and reconnaissance services
- Cyber security services
- Education and training
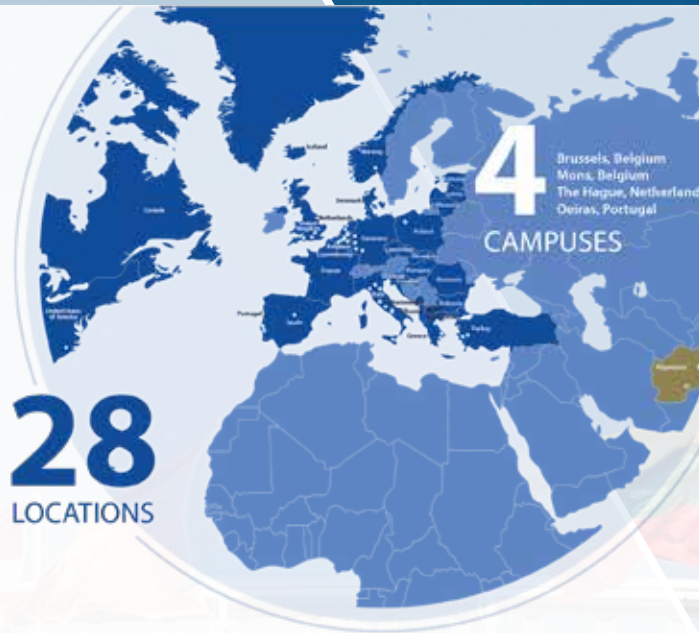
Our mission and vision

Our mission

Every year, the NATO Communications and Information Agency (NCI Agency) acquires around 500 million EUR worth of new information technology on behalf of the Alliance. NATO's C4ISR technology has to stay up-to-date in order to effectively protect our Member States.

However, these technologies would be useless if no experienced people were able to use them. Technologies and material can only become capability through the application of education and training services.

Our mission is therefore to manage, coordinate and deliver education and training services to NATO, the Nations and internal staff.

Our vision

Our vision is to develop and deliver world-class C4ISR education and training services, including cyber training and services, across the NATO enterprise.

In short, we are proud to support NATO's digital endeavour by providing **smart training for smart defence.**

The 60th anniversary of the NCISS in Latina on 3 June 2019 was marked with a ceremony that also marked a handover of its responsibilities to the NCI Academy.

The NCI Academy replaces multiple organizations

Although the NCI Academy is new, it is built on the 60+ year legacy of its predecessors. Following a decision by NATO Heads of State and Government in 2012 related to agency reform, four training organizations were combined into the NCI Agency.

As a result, the training services within these organizations merged in 2014 into the Education and Training service line. This concerned the following organizations:

- **The NATO CIS School (NCISS) in Latina, Italy, originally part of the NATO CIS Service Agency (NCSA);**
- **The Applications Training Facility in The Hague, Netherlands, originally part of the NATO Consultation, Command and Control Agency (NC3A);**
- **The Air Command and Control (AirC2) Systems Training Centre in Glons, Belgium, originally part of the NATO Programming Centre (NPC);**
- **The SHAPE CIS Training Centre in Mons, Belgium originally part of Allied Command Operations.**

The AirC2 training team relocated from Glons to Oeiras and partially to The Hague in September 2018. Since its creation and establishment in Glons, the NATO Programming Centre has trained approximately 100.000 students, in both individual and collective training events.

The NCISS was the final of these four organizations to be merged. The relocation from Latina to Oeiras took place in the summer of 2019. The closing ceremony of the NCISS took place in June 2019, the year it marked its 60th anniversary. Although talent has always been fostered to reach the highest standards of training delivery at NCISS, the collective achievements have always surpassed the individual contributions, inspiring several generations of dedicated staff, instructors and supporting personnel. In the 60 years of its existence, the NCISS trained approximately 100,000 students, which continue to be decisive in the support of NATO missions and operations.

The NCI Academy brings together the former teams into a single unified organization, under a single service catalogue, unified processes and quality system, applicable at all its training facilities, through its mobile training teams and online.

The NCI Academy is a training service provider with multiple locations

Although the new training delivery centre in Oeiras is the primary delivery location of the Academy, we offer our services from Oeiras, The Hague and Mons.

After relocation activities from Glons and Latina, most C4ISR training was moved to Oeiras. Nevertheless, almost 50% of our training offer is executed in our other facilities and at deployed locations.

To attend a course, you might not even need to travel. The NCI Academy invests in e-learning and mobile training teams, which means that many of the courses will be available online.

Students will be able to follow training where and when it suits them while e-learning offers many possibilities, it is not applicable to the entire spectrum of C4ISR technology that the Academy covers. Training with a group and with instructors in a classroom is a necessity for many courses, and we will keep providing this at our four locations.

Through the NCI Academy, the NCI Agency ensures the delivery of state-of-the-art C4ISR and cyber security high quality training to NATO and the Nations of our Alliance.

The NCI Academy plays a pivotal role in the development of the NATO's digital workforce in the 21st century, addressing current challenges, as well as new and evolving operational requirements.

Oeiras

The Hague

Mons

NCI Agency The Hague
The Netherlands

NCI Agency Oeiras
Portugal

NCI Agency Mons
Belgium

NCI Academy facilities

Overlooking the Atlantic Ocean, the NCI Academy location in Portugal is designed to be a state-of-the art training and conference facility with support services both on campus and in the nearby village of Oeiras. Our location opened on 2 September 2019.

Academic facilities include:

• A 256 seat-auditorium, equipped with an audio system, video projectors and simultaneous translation technology;
• Laboratories and classrooms designed to receive up to 6,000 students yearly;
• Equipment for every C4ISR system that is currently employed by NATO;
• Offices that can accommodate more than 110 staff and instructors;
• A library.

The Academy is the NCI Agency's main location in terms of training capabilities: networked multimedia technology such as video cameras, projectors, smart boards, computers and video-teleconferencing, which together provide a flexible learning space, adaptable to any teaching plan including remote learning.

We also host trainings in permanent training rooms in our other locations. In Mons as well as in The Hague, our training rooms are furnished with equipment enabling learners to connect remotely from any location to live classes.

The NCI Academy is a business unit of the NCI Agency

The NCI Agency provides many different services to NATO and the Nations. These services are consolidated under service lines, which deliver a package of related services. The term service line is a synonym of business unit. The service lines of the NCI Agency are:

- Network Services and IT Infrastructure (NSII)
- Core Enterprise Services (CES)
- NATO Cyber Security Centre (NCSC)
- Command and Control (C2)
- Joint Intelligence Surveillance and Reconnaissance (JISR)
- Operational Analysis (OA)
- Service Support and Business Applications (SSBA)
- Air and Missile Defence Command and Control (AMDC2)
- The NCI Academy.

The NCI Academy offers three distinct services:

1. Individual training in the fields of C4ISR and cyber, internally and externally;
2. Collective training and exercise services including support for the NATO Education Training Exercises and Evaluation (ETEE) software suite;
3. Learning innovation and development, to modernize the methods and infrastructure behind our training.

NCI Academy

Individual C4ISR & cyber training services

Since the establishment of the NCI Academy, all C4ISR and cyber courses are included in a single comprehensive catalogue.

The NCI Academy presents its course offering in this catalogue every year, which describes the 200+ courses in detail. It includes not only all courses organized and delivered by the Academy, but also those offered by the Academy's commercial partners.

This course catalogue covers the entire spectrum of NATO-specific C4ISR, including:

• Traditional Communications and Information Systems (CIS), including C4ISR applications;
• Cyber security;
• Air and missile defence.

It also covers the most popular commercial courses in:

• Project management;
• Programme management;
• IT service management;
• Behavioural and soft skills.

The catalogue includes procedures for seat allocation as well as the pricing policy and prices for many of the courses. It also contains details such as course objectives, class size, duration and location.

It informs potential student about prerequisites for the course, such as security clearance, professional background and other aspects.

The catalogue is a living document, as the Academy dynamically adjusts its course offerings to accommodate new systems being delivered, systems being phased out, new versions and changing customer requirements.

Our catalogue can be found on https://www.ncia.nato.int/training

Collective training and exercise services

The primary role of the Academy's Collective Training and eXercise (CTX) group is to design, acquire and provide application services to the training organizations in the NATO Command Structure for the preparation, conduct, analysis and evaluation of collective training events and exercises. Currently, application services are provided to the joint, air, land, maritime, intelligence and cyber Communities of Interest (COI) for three activities:

- The development of training objectives;
- The development, execution, observation and analysis of exercise Master Event List/Master Incident List (MEL/MIL), which can be defined as the storyboard of the training;
- The simulation of operations at the joint operational level, at the joint tactical level and in the air domain.

Acquisition projects are ongoing to extend the application services to meet ballistic missile defence and integrated air and missile defence exercising requirements.

The MEL/MIL and the simulation applications feature interoperability with COI functional services and are scalable to support large as well as small exercise control organizations. They can be operated in a collaborative, distributed manner, on NATO static and deployed operational networks as well as on public and on closed dedicated networks.

In addition, the CTX group provides subject matter expertise in the areas of training objective development, MEL/MIL development and execution, and in the preparation and operation of joint operational, tactical and air-specific simulations in support of actual exercises.

The CTX group complements an Academy, individual-training package for headquarters technical and operational staff with a collective training event that is aimed at exercising prioritized training objectives, working practices and functional services.

Synergy between individual and collective training

Although their services are in different categories, collective training and exercises could be considered an extension of individual training. Individual training builds towards a performance objective, so that the student will be competent in the function he or she performs. Collective training and exercises function the same, except that the teams in which these individuals function are being trained towards a performance objective. Individual training is therefore a building block for collective training.

Cyber ambitions: building a NATO cyber curriculum

Cyber-attacks have the potential to undermine NATO's mission, and hamper the ability of the Alliance to deliver collective defence. To effectively defend the Alliance against ever-evolving cyber security threats, the NCI Academy aims to become the central hub for educating and training NATO's cyber defenders.

Over the last decades, the NCI Academy has collaborated closely with industry to deliver courses in the cyber domain. The topics ranged from technical skills like ethical hacking or digital forensics, to more tactical courses that prepared officers for specific CIS and cyber security roles.

Since 2017, the NCI Agency has aimed to increase its impact in the cyberspace domain by broadening the scope and volume of cyber courses on offer. In that year, the NCI Agency was involved in the MultiNational Cyber Defence Education and Training (MNCDE&T) project, led by Portugal. From the start, it was clear that there were potential synergies between this project and the NCI Agency's ambition to grow its cyber curriculum.

The MNCDE&T project conducted a Training Needs Analysis (TNA) in 21 participating Nations to identify which competencies were lacking in which specific national audiences. We used the outcome of this analysis as a guideline for the requirements of our cyber curriculum for the coming years.

This curriculum will not only train NATO forces: the project also represents a synergy with the EU. By joining forces, NATO and the EU aim to train 10,000 new cyber defenders between 2020 and 2027. Although the curriculum has primarily been developed for NATO, part of the cyber curriculum is also potentially relevant to EU audiences.
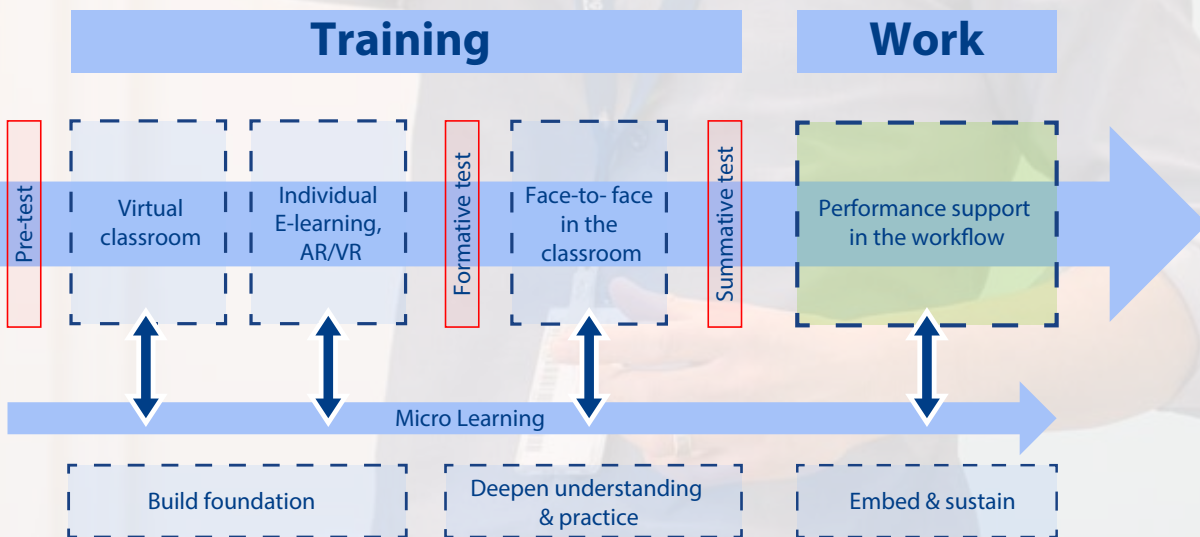
NCI Academy's Learning Transformation

Re-defining courses to extend learning beyond the classroom

Training						Work

| Pre-test | Virtual classroom | Individual E-learning, AR/VR | Formative test | Face-to-face in the classroom | Summative test | Performance support in the workflow |

Micro Learning

Build foundation	Deepen understanding & practice	Embed & sustain

Learning transformation

While we are developing new cyber courses to meet the technological challenges of the future, we are also re-imagining our courses. The very methods with which we conduct training will be insufficient to meet the future, for four reasons.

Firstly, it is a constant challenge to deliver classroom training at the right place and the right time, as travel is often necessary. This challenge is only aggravated by the COVID19 crisis which accelerated the NCI Academy's efforts to deliver large parts of our offering online. Secondly, even outside the COVID19 crisis, national travel budgets are already under pressure. Thirdly, the classic ways of training are not scalable. There is a growing demand for training, and the technologies we teach are increasingly complex. To meet this demand, we cannot solely depend on training delivery in one geographical location. Finally, the new generation coming in to our workforce has other expectations with regards to training, learning and development: relevant content should not exclusively be conveyed by an instructor, but always within reach and online. To engage our new workers, training should be as interactive and collaborative as possible, and tailored to individual needs instead of being a 'one-size-fits-all'.

Therefore, the NCI Academy's aims to transform training by extending learning beyond the classroom, leveraging new technologies. True development of knowledge and skills is not bound to a specific location, but is supported anywhere, and is more integrated with practical situations on-the-job. An example is performance support: by delivering small nuggets of 3-5 minutes of practical instruction online ('micro-learning') we aim to support students also after a training, at the moment when they need to apply what they have learned in their work. This is currently being applied in the training of widely used systems such as TOPFAS and JChat. By enhancing classroom training with tailored online resources, we aim to increase retention, but mainly support the performance of our audiences at the time when they need it most: in their work.

Other domains of innovation pertain to the use of Artificial Intelligence in our new learning management system (from 2021) that recommends specific content to individual learning needs. The virtual classroom is an online environment that brings the full interactivity of classroom training to remote audiences. Finally, the NCI Academy is investing in creating immersive learning, such as transforming manuals for Satellite Communications (SATCOM) engineers into augmented reality.

The NCI Academy programme

How we got here and what is left to do

To ensure the development and delivery of the NCI Academy, we created a temporary and flexible organizational structure called the NCI Academy programme.

Consisting of five main tranches, the NCI Academy programme coordinates, directs and oversees the implementation of about 50 work strands ranging from the creation of an Academy organization and the construction of our campus in Oeiras to the provision of a flexible, interoperable, secure and resilient CIS infrastructure.

The first three tranches have been delivered. **Tranche 02** ended after achieving Initial Operational Capability (IOC) in September 2019 while **Tranche 03** reflects the settling-in period, an achievement of one complete cycle of training with properly-manned and trained staff and the integration of new capabilities in the pipeline .
Tranche 04 requires additional collaboration with NATO Allied Command Transformation and Allied Command Operations and will require a thorough review of the requirements and ambitions of the customers.

The NCI Academy programme structure ended in Spring 2020, and the remaining activities will be managed by the Academy leadership as part of an ongoing transformation.

00 E&T Consolidation

We needed to create a single effective and efficient training service by merging the four legacy training facilities into a single catalogue.
This Tranche was completed in 2017.

01 Academy Advance Echelon

An NCI Academy Advance Echelon (ADVON) was deployed in the interim facility in Oeiras, coordinating the activation of the Academy. We delivered an initial set of light courses as a try-out of the Initial Operating Capability. We also moved from Glons.
This Tranche was completed on 3 September 2018.

02 Academy Operational

We achieved Initial Operating Capability (IOC) in the NCI Academy. For this, we completed the building and moved all assets and staff from Latina to Oeiras.
This Tranche was completed on 3 September 2019.

03 Academy Enhanced Capability

We have to man all posts, complete a full cycle of training curriculum and achieve a transition to Customer Funding.
We are planning to complete this Tranche on 31 December 2020.

04 Transformation

Additional investments in technology and infrastructure: Training modernization. We are planning to complete this Tranche on 3 September 2025.

Partnering with the Academy: building a cooperative network

The Academy's in-house staff has a great deal of expertise, and partnerships with other organizations further strengthen our knowledge.

For this reason, the NCI Academy started various partnership initiatives in 2016:

- Strategic partnerships with national bodies;
- Smart defence initiatives;
- Multinational approaches;
- Working with academia and industry.

These initiatives continue to date.

The Academy training facility in Oeiras provides the NCI Agency with a hub from which to deliver resident training, federated, distributed, distance and e-learning or a blend of all, when and where NATO, the Nations and partners need it.

The knowledge-centric approach to training requires a resilient and reliable "network of networks" in which the NCI Academy plays the central node. This network does not only enable strategic communications, but it also paves the way for future C4ISR and cyber security curriculum and knowledge developments, and will strengthen the capability to provide up-to-date and future-proof education and training.
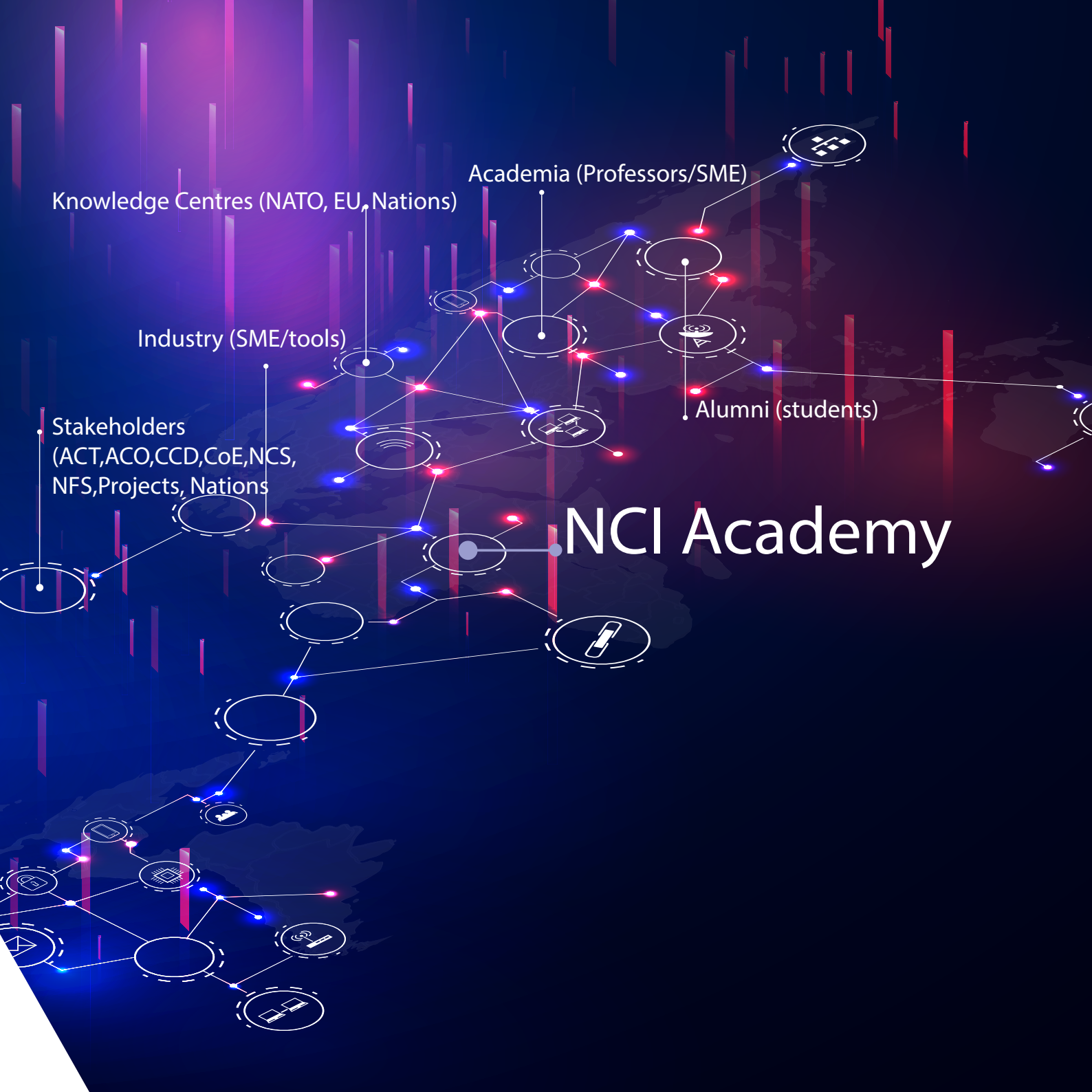
Knowledge Centres (NATO, EU, Nations)

Academia (Professors/SME)

Industry (SME/tools)

Alumni (students)

Stakeholders
(ACT,ACO,CCD,CoE,NCS,
NFS,Projects, Nations)

NCI Academy

Transition to customer funding

Following a decision by the Resource Policy and Planning Board (RPPB) in 2013, NATO Nations will no longer benefit from common funding for national training requirements. From 2021 onwards, NATO Nations are responsible for funding their own training.

When a course delivered by the NCI Academy will be attended for national training requirements (as opposed to, for example, a NATO Command Structure post), these external (national) customers will have to pay for the courses themselves.

This impact is not to be underestimated, as the tuition cost will go from a currently free seat to an average cost of 1,100 EUR per student per week, depending on the complexity of the course.

As a result of the transition to customer funding, the NCI Academy will be able to adapt its course catalogue more effectively according to evolving customers' demand.

We can now deliver an increasing number of seats on a more varied catalogue of courses. In addition to meeting specific training requirements for the NATO Command Structure, the NCI Academy will start providing courses on topics required by the NATO Force Structure and other (multinational) NATO organizations. For example, the Allies made cyber defence training and education a focus area, in recognition of the importance of addressing the human dimension of cyber defence.

While requirements planning remains the crucial factor, the process needs to be supported by a flexible and responsive instrument in the delivery phase. To this end, the NCI Academy has developed the Service Support Training (SST) package as a new contract form. The aim of the SST is to provide required funding and delivery flexibility and to streamline the delivery management between the customer and provider at the lowest eligible decision-making level.

Further details on how to do business with the NCI Academy can be found in the 2021 Course Catalogue and our business brochure, both available on **http://www.ncia.nato.int/training.**

Our People

As a department of the NCI Agency the NCI Academy personnel consists of many different nationalities and backgrounds. Using the expertise that comes with our civilian or military environments, and our different cultural background, we all work together to deliver education and training services to the Alliance.
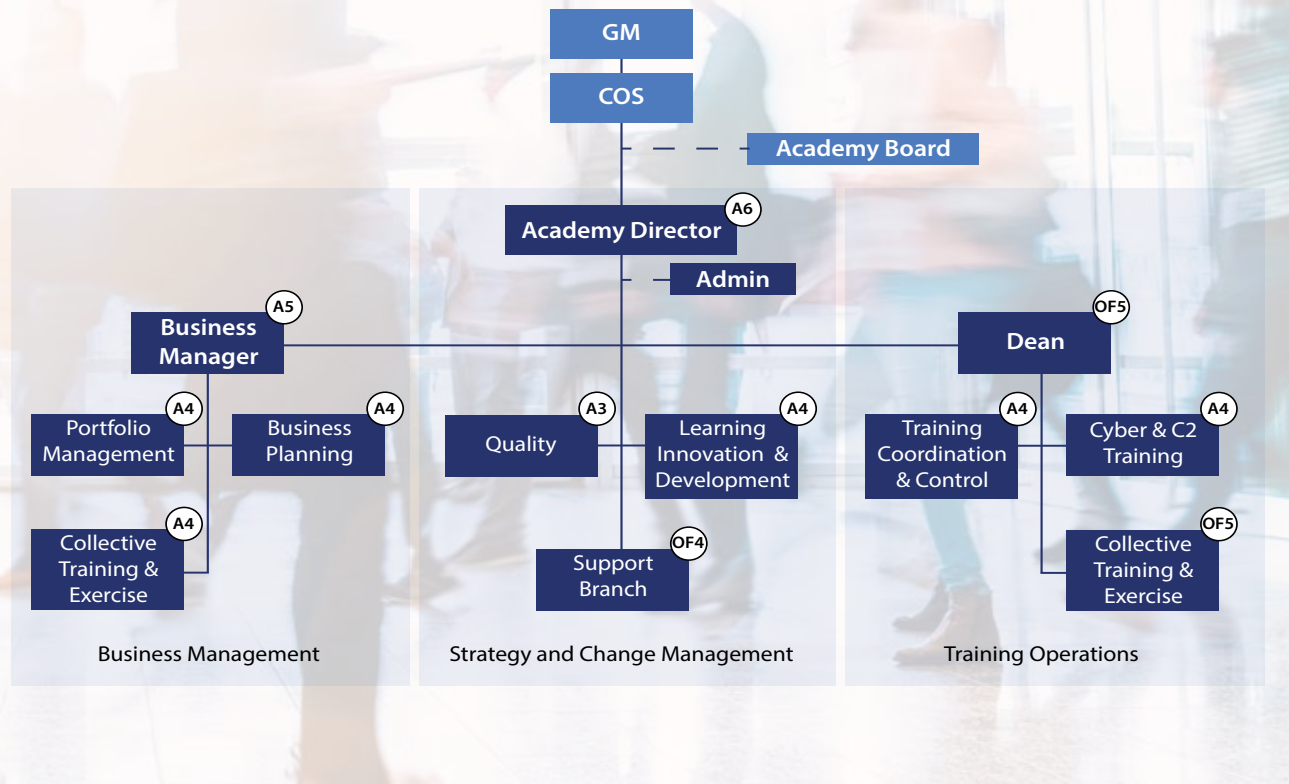
NCI Academy: Staff & Locations 102 Active Staff

54 CIV
19 CONTRACTORS
29 MIL

24 THE HAGUE
2 STAVANGER
10 MONS
66 OEIRAS
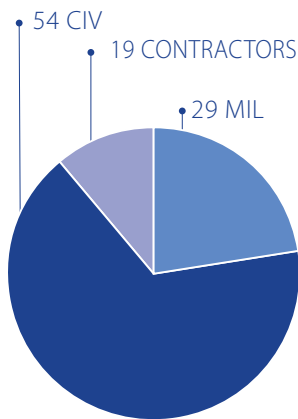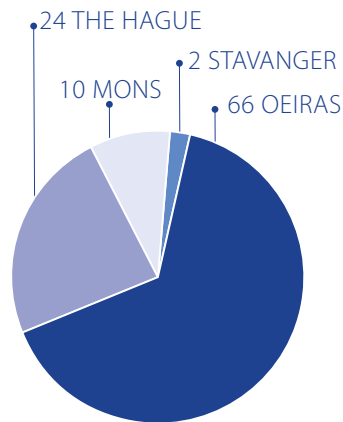
102 STAFF

4 LOCATIONS

19 DIFFERENT NATIONALITIES

42 STAFF WITH ADVANCED DEGREES

NCI Academy organization chart

GM

COS

Academy Board

Academy Director — A6

Admin

Business Manager — A5

Dean — OF5

Portfolio Management — A4

Business Planning — A4

Quality — A3

Learning Innovation & Development — A4

Training Coordination & Control — A4

Cyber & C2 Training — A4

Collective Training & Exercise — A4

Support Branch — OF4

Collective Training & Exercise — OF5

Business Management

Strategy and Change Management

Training Operations

Leadership structure

BGEN Luis Camelo (OF6)

Director (Acting)

The NCI Academy Director (post at grade A6) has the responsibility of leading the Academy, and is accountable for the delivery of its education and training services in the service owner role, and for overseeing staff management.

Jean-Paul Massart (A5) Business Manager (Acting)

The NCI Academy Business Manager is responsible for resource management including relations with customers, industry and suppliers, and manages all contracts and the business portfolio to advise the Director. The Business Manager also oversees the Business Development group, the Business Planning team, and the Collective Training and Exercise Group.

Dr. Garry Hargreaves (A6) Director

Dean (Acting)

The Academy Dean is responsible for academic professionalism, delivery of courses and composition of the academic curriculum. The Dean also heads the Training, Coordination and Control Group, the C4ISR and Enterprise Services Training Knowledge Centre and the Cyber and C2 Training Knowledge Centre.

Bringing it all together

As a real believer in the development of organizations, teams and people, it has been my privilege to guide all the threads you have read about in this brochure. It is a privilege and a huge team effort to deliver a NATO capability that will stand us in good stead for the foreseeable future.

The former CIS school delivered technical education for more than 60 years, and through that time trained more than 100,000 of our Allies' students. In 2019, the Agency carefully lifted that education and training capability, strengthening a beacon that had already illuminated the way for our soldiers, sailors, air personnel and civilians for decades, and brought that torch to Oeiras. Yet our work is not complete, and we are certainly not resting on our laurels. From this new flagship location, we will strive to reach new education and training heights, to become even more relevant for our customers and stakeholders. The new Academy, and NATO's newest educational and training facility, will do its part to contribute to the security of NATO and its Nations for years to come.

The Academy will strive to continually improve, it will lead and be proactive, searching out new educational gaps and rapidly responding to requests to fill them. It will embrace new technologies and drive their implementation, impact their operation, resilience and sustainability. It will contribute significantly to the cyber defence of NATO and the Nations, and reach out to partners, in industry and beyond, to ensure that we are second to none in the provisions of NATO technical education and training. None of this would be possible without close cooperation with our stakeholders. Thank you for you patronage and support. We are here because you are.

MGEN Göksel SEVİNDİK
Major General
Chief of Staff
Academy Programme Senior Responsible Owner.

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5TH NCI AGENCY
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Education & Training
CONFERENCE

13-15 October 2020
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For more information
www.ncia.nato.int/training

Save the date
ONLINE EVENT

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