



Shaping Tomorrow's Air Force

Many Challenges and Even More Opportunities!

By Major General Thierry Dupont, Commander, Belgian Air Force

An Unprecedented Reality

The geopolitical landscape is unprecedented and scattered more than ever. Facing emerging powers possessing state-of-the-art technologies becomes a day-to-day reality. Threats to our safety and global security evolve continuously. Crude actions and the

aggressive rhetoric of external actors and peer competitors pushed us into an unprecedented crisis. Therefore, our Air Force must be capable of meeting the numerous challenges that arise as a result. The endless pursuit of technological lead is not a luxury but a must. Seventy-six years of peace in Europe, something many of us took for granted, was abruptly

ended by the Russian aggression against Ukraine. A wake-up call for many of our national and European leaders to invest in and support the collective defence structure. Recent developments in the geopolitical arena not only stress the need for but also accelerate the transformation of our armed forces by identifying shortfalls in technological capabilities and advanced military capacities. Technological progress is a prerequisite to the success of an operation. There is a need to pursue strong cohesion based on solid friendship and mutual trust. Transforming an organization carries more than one challenge and offers many opportunities; it is the art of adapting seamlessly to each fight and future threat at the speed of relevance.

Last year, our Air Force celebrated its 75th anniversary; we look back to a rich history spanning three-quarters of a century. The Belgian air combat capability, supported by our efficient transport fleet, has unceasingly been put at service throughout the last 25 years to safeguard and secure our Alliance and partner nations. Belgian aircraft were involved in homeland operations and abroad over the Balkans, the Baltic States, and the Middle East providing support over Afghanistan, Iraq, Syria, and Libya. By doing so, many of our personnel have been exposed to challenging tactical situations and gained valuable experience. These highly experienced airmen, always ready to deploy with unwavering dedication, are shaping our organization to lead the way to a next-generation Air Force: a genuine revolution encompassing new training, operational concepts, and cutting-edge weapon systems. Transformation and consolidation are necessary to ensure our Air Force is constantly prepared to act under any circumstance on national soil or abroad, and to position our country in a credible way towards our international partners and allies within the framework of established cooperation initiatives.

Navigating Through Many Challenges

Our newly adopted strategic vision, STAR, comprises four pillars: Security & Service, Technology, Ambition, and Resilience. The 2030 goals of the STAR plan are aligned with the parallel processes of the newest European Strategic Compass and the NATO Strategic

Concept. This vision focuses on three main areas: personnel, strengthening the industrial and technological backbone, and increasing equipment investments. We position ourselves at the heart of European defence and the European pillar of NATO. Synergies and strengthened international collaborations make it possible to strive for greater efficiency. In the years to come, an additional ten billion euros will be invested in the Belgian armed forces to acquire more sophisticated weapon systems and to build modern maintenance and operational infrastructure. The first Belgian F-35A Lightning II will be delivered in 2023 and we expect to achieve limited operational capability by 2025.

Meanwhile, we will maintain a fully operational combat capability with our current F-16 fleet. Many hurdles will have to be cleared in the coming years; a true challenge, especially for a medium-sized Air Force. In addition to the Airbus A400M, the MQ9B SkyGuardian, and the F-35A, the Belgian Air Force plans to acquire a new fleet of Light Utility, Search and Rescue, and medium to heavy transport helicopters, special operations aircraft, and light tactical transport aircraft. New training concepts will be rolled out for our pilots as well as our maintenance personnel, combining live and synthetic training in Belgium and abroad. We will also significantly increase our participation in the Multinational Multi-role Tanker Transport Unit (MMU) and acquire short- and long-range Air and Missile Defence systems for homeland defence and deployed operations. Besides introducing new capabilities and training concepts, we attach great importance to the rapid and innovative development of existing capabilities, resulting in many initiatives and international cooperation possibilities.

Military personnel were often the variable during budget cuts throughout the last decade. However, it is the only genuine engine of our Air Force. Increasing recruitment and adopting new training concepts are required to operate 5th-generation military assets effectively in future highly contested environments. We must be able to operate safely and tactically sound whilst ensuring security and military resilience. A major recruitment plan, *People Our Priority*, was activated a little over a year ago. The first positive signs of these increased recruitment efforts are noticed already at our units. Young, motivated, and well-trained personnel



The first Belgian F-35A Lightning II will be delivered in December 2023 with an expected operational capability by 2026.

are indispensable for an organization in full transformation. Ensuring that human resources are not a limiting factor for the transformation towards the Air Force of the future is a true challenge. The quantity and quality of personnel have an immediate and significant impact on the introduction of new weapon systems. Attracting new specialized and skilled personnel and retaining experienced personnel by creating proper incentives and motivational mechanisms is more important than ever. Personnel maintaining and operating 5th-generation weapon systems need to be all-rounders. It is a long-term investment and thus worth the effort. By doing so, I am convinced we will succeed in implementing new high-tech capabilities.

Change management is an often underestimated aspect during an organization's transformation. Yet it is important. A successful transition to the future Belgian Air Force requires keeping our entire workforce aboard. From a leadership point of view, all members must be given the appropriate decision-making authority proportional to their assigned tasks. Empowerment is not only motivating but also a key element for a resilient and adaptive organization in a volatile environment. This concept of leadership and orientation implies the need for a responsive and inclusive command structure. Certain levels of command will be implemented

differently in the future, whether it be from an operational or maintenance point of view. A bottom-up approach creates a resilient and healthy organizational culture. This is vital in the long run, especially for an organization relying heavily on its human capital. Finding the right balance between steering and empowerment whilst optimizing the potential of our personnel is the way to go. Yet another challenge and an opportunity to seize!

The Defence and Industry Research Strategy (DIRS) assists the Belgian industry's research and development of new capabilities within a European context. A solid industrial base strengthens European strategic autonomy and allows extensive large-scale cooperation to overcome military shortfalls. Major current and future investments in state-of-the-art equipment will enable our Air Force to protect vital interests and to show resolve to our Alliance. The future Belgian Air Force will remain a reliable international partner whilst being able to project strategic vectors in complex non-permissive theatres anytime, anywhere on the globe.

A few years ago, we initiated the transformation of our Air Force. The first signs became visible in 2019, when the Belgian military Air Traffic Control Centre moved to its new location to develop in-depth synergies with

Skeyes, the civilian ATC provider, leading to efficient use of Air Traffic Control services. The Belgian Airspace Vision 2030, a civil-military initiative, introduces the Flexible Use of Airspace (FUA) concept and prepares the airspace integration of 5th-generation platforms. The result should be an optimal use of airspace for military and civilian users. In 2020, the Belgian Control and Reporting Centre took possession of its new infrastructure and will remain at the heart of NATO's Air Defence capability. The first A400M strategic and tactical transport aircraft joined our Air Force two years ago. The transition towards a performant high-tech transport capability and commissioning a new state-of-the-art maintenance complex have been great successes. It almost doubled the transport capacity compared to its predecessor, the C-130 Hercules, and was put into service during the non-combatant evacuation operation in Afghanistan, Red Kite 2021, only a few months after the first aircraft arrival.

With the introduction of the MQ-9B SkyGuardian and the F-35A Lightning II in less than two years, our Air Force will acquire a strategic Remotely Piloted Aircraft (RPA) and 5th-generation combat capability. These assets are real game changers that require a new mindset to empower and adopt new operational concepts. As many air forces introduce the same, a strong group of users arises. However, we must not be blindsided by the fact that this metamorphosis extends far beyond the material level. Introducing and developing game-changing capabilities is far more than acquiring a new platform; it requires a solid and sustainable infrastructure that meets today's fast-evolving standards. Large construction works are initiated at our airbases. Owing to thorough coordination, we can minimize the impact of these construction works on our operational output. Combining many construction sites with the requirement to meet a preset ambition level is a daily challenge. For instance, the multifunctional F-35 complex at Florennes Airbase needs to be operational by mid-2024 to be ready to receive the first F-35A in 2025. Additionally, these platforms introduce a series of new and noteworthy security challenges with profound influences on infrastructure specifications and design requirements. Fifth-generation security standards require more force protection personnel; yet another recruitment challenge.

A Giant Capability Leap

The F-35A advanced avionics sensor suite, high-performance self-defence system, and low observability allow it to gain access to highly defended Anti-Access/Area Denial (A2/AD) zones. In a nutshell, great potential! The future Belgian Air Force gains unprecedented operational capabilities and partner integration possibilities, readying itself for the conflicts of tomorrow. Introducing 5th-generation capabilities is a giant technological leap that requires a revised training concept combining live and synthetic training to prepare our pilots, support staff, and technicians. This aircraft far exceeds the capabilities of a 4th-generation multi-role weapon system. Equipped with a myriad of sensors, acting as a node in a hyper-connected network and fitted with state-of-the-art weaponry, the F-35 enables us to act against the most sophisticated adversaries whilst serving as a Battle Manager. Moreover, the groundbreaking capabilities of the F-35 will enable us to generate synchronized effects within the Multi-Domain Operations concept.

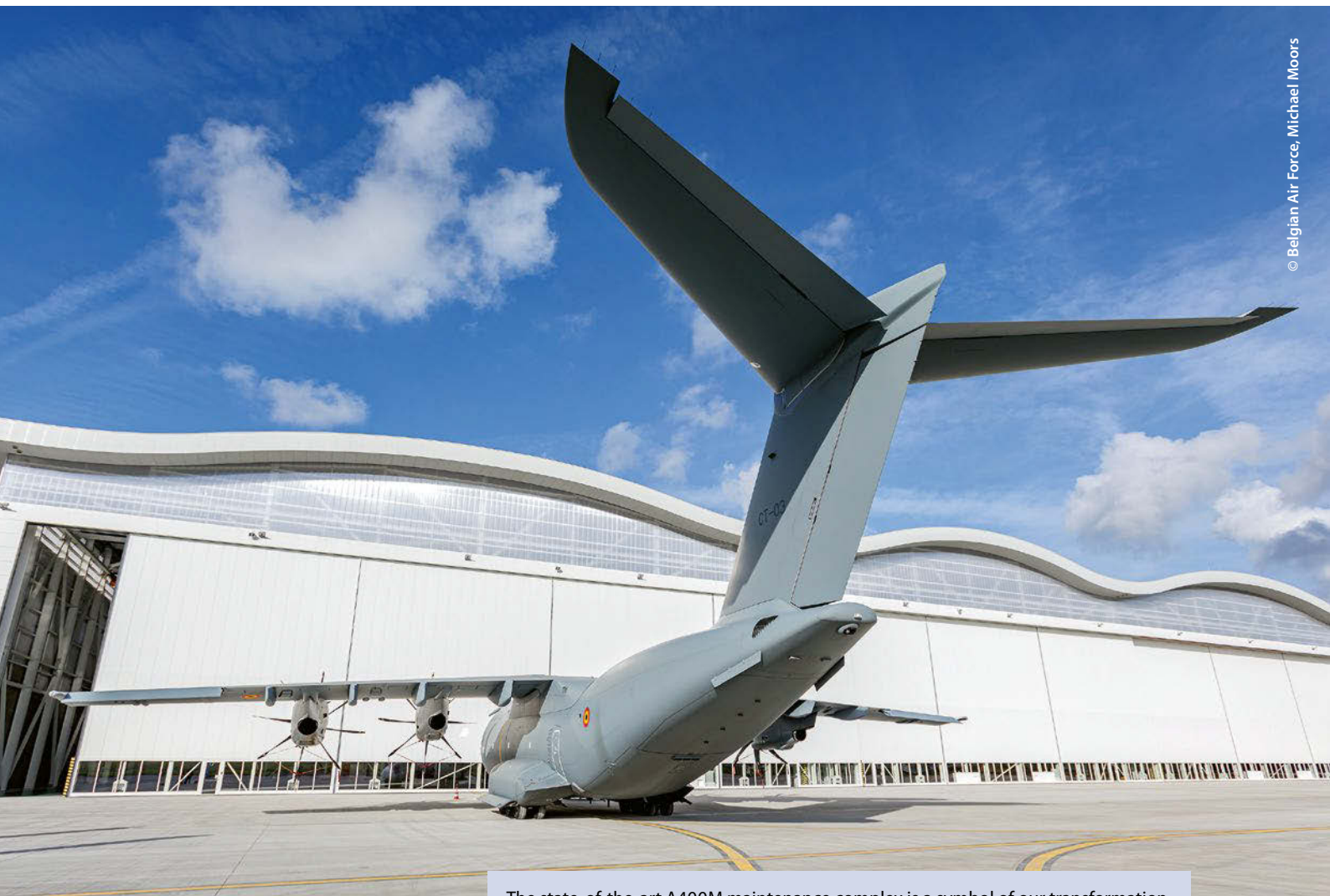
Data processing becomes increasingly important while the boundaries between the operational domains (Air, Land, Maritime, Space, Cyber) are blurring. Intelligence is essential to deploy available resources appropriately and efficiently. Analysis and intelligence collection capabilities, both human and technical (imagery, artificial intelligence, exploitation and storage of big data), are needed to allow tactically sound as well as timely strategic coalition decision-making. Data collected by our future F-35s will complement and merge with that of our allies, effectively contributing to optimal data processing and analysis.

The Medium Altitude Long Endurance Remotely Piloted Aircraft System (MALE RPAS) will be able to take off from a permissive area, proceed to the area of interest, and provide valuable continuous battlefield ISR coverage. Introducing the MQ-9B SkyGuardian in the Belgian Air Force provides a historical strategic dimension and a high-performance intelligence capability. Given the multi-mode communications suite, wide-range sensors, and significant loiter time, it provides a unique capability to perform strike coordination and reconnaissance against high-value,

fleeing, and time-sensitive targets. Remote Split Operations (RSO) simplify command and control functions as well as the logistical supply needs for the weapons system. It allows the safe projection of a capable ISR asset, even before the start of a conflict, without exposing personnel or equipment unnecessarily to any threat.

A new milestone for building our imagery intelligence Processing, Exploitation, and Dissemination (PED) capability is the recent inauguration of the Belgian Imagery PED Centre at Florennes Airbase as a centre of excellence responsible for aerial footage analysis. Interconnecting coalition intelligence assets and merging and sharing ISR products amongst partners and allies herald a new era of coalition operations. Information

management requires persistent development and continued investment in personnel and communications systems. These two aspects are the cornerstone of any next-generation system, be it the MALE or the F-35. It includes connectivity to satellite providers and an information network inherently used by any modern intelligence architecture to store and – above all – analyse collected raw data, as well as disseminate the generated intelligence products near real time. The communication infrastructure for these new capabilities will not only have to be efficient, resilient, modular, and secure but also integrate seamlessly with those of our partners. Understandably, there are challenges to overcome in sharing accurate battlefield situational awareness amongst allies, yet this unique PED capability provides new opportunities.



The state-of-the-art A400M maintenance complex is a symbol of our transformation.

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Fostering Coalition Effectiveness and Enhancing Interoperability

Ensuring our armed forces are interconnected and interoperable within a broad spectrum of possible conflicts should be at the top of our priority list. Combined planning and synchronized mission execution in a Multi-Domain Operations environment can only be successful with interwoven systems and connected capabilities. Such in-depth international integration at the high end of warfighting requires, above all, a mindset change. To overcome future conflicts we need the capability to easily manoeuvre across all domains, in a synchronized manner, at a speed and efficiency that the opponent cannot match. Our coordinated coalition actions will only then be effective. Information and communication technologies need to be linked through battle networks. Efficient information sharing concerning the activities and resources of a potential adversary strengthens military partnerships. The Alliance's seamless integration, reliant on 4th and 5th generation assets and an efficient combat cloud, provides a huge information advantage.

We must ensure the continuity of operations by strengthening the collective resilience of our critical military infrastructure. More emphasis must be placed on maintaining robustness and resilience in a constantly evolving environment when operating complex fifth-generation systems. Decentralized allied infrastructure and operating from dispersed locations are beneficial to military resilience.

With these considerations in mind, we are obliged to innovate and adapt so that our strategic and tactical warfighting assets integrate seamlessly and effectively

in a joint and combined environment. We have to foster coalition effectiveness by integrating new high-end assets, pursuing interoperability, and effectively becoming a node in the coalition's information network, especially in support of operations.

The Importance of Cyberspace

Our society and economy are increasingly digitalized and interconnected and, thus, need to rely on the availability and integrity of digital information, IT systems, and the underlying infrastructure. Technological developments have increased the importance of information and data in our security environment. Fifth-generation weapon systems are, amongst others, heavily dependent on the proper functioning of their networks and possess a digital element that connects them to cyberspace. At the same time, numerous easily accessible and highly sophisticated cyber tools allow our adversaries to directly or indirectly compromise these critical military weapon systems. Targeted cyberattacks come in increasingly diverse forms and can severely cripple our society.

Protecting military information while ensuring the reliability, integrity, and availability of communications, information, and weapon systems are the core tasks of the military cyber capability. Situational understanding in cyberspace is paramount and should be integrated into a common operational picture. To this aim, our armed forces inaugurated the Belgian Defence Cyber Command in October 2022, which is

essential to NATO's collective defence, and will consist of four main pillars (security, defensive, intelligence, and offensive). Once again, a large number of highly skilled technicians, analysts, and specialists should be recruited and trained in the cyberspace domain to achieve full operational capability.

Moreover, exclusive partnerships between the Belgian armed forces and high-tech civilian companies exist in order to develop cybersecurity skills and capabilities within the Belgian government and related industry. A transformation plan was developed to evolve from a security operations centre to a security intelligence centre. The build-up of cyber expertise will not be limited to defence and may be of interest to many other sectors facing the growing cybersecurity challenges.

A Bright Future Ahead

The Belgian Air Force is, in essence, based on four pillars that make up its identity: dedicated personnel, new weapon systems, adapted infrastructure, and

concepts & procedures. These backbones require an adaptable mindset and reliable connectivity. Undoubtedly, we are steadily evolving towards an Air Force equipped and prepared for the future, ready to adopt and implement new maintenance and operations concepts. Our coalition mindset will also be reflected in future acquisitions and by continuing to build a strong and resilient Air Force able to easily adapt and overcome the rapidly changing threats of tomorrow. Still, many challenges will arise; efficiently allocating our resources is essential to build a resilient structure.

Today, we stand on the verge of a new era for our Air Force. It is a giant leap in terms of capabilities and the possibilities they generate. Our Air Force will be modernized to 5th-generation standards in a few years. Ready for the new normal, offering high-tech combat, transport, helicopter, and RPA fleets to the next-generation airmen, thus enabling them to achieve our ultimate goal, 'projecting Air Power anytime, anywhere on the globe'. We are experiencing historical times and – admittedly – that makes it all quite exciting! ●

Major General Thierry Dupont

graduated from the Polytechnic Department of the Royal Military Academy in 1989. After completing his pilot training, he was assigned to the Mirage 5. In 1995, he completed an F-16 conversion and joined the 2nd Tactical Wing. Four years later, he attended the test pilot training course at the French Test Pilot School in Istres. In January 2002, he was assigned as the Commanding Officer of the No. 1 Squadron in Florennes, transitioning to F-16 MLU under his command. In 2004, he attended the Superior Command and Staff Course at the 'Collège de Défense' in Toronto (CA) and obtained a parallel master's degree in defence policy at the University of Montréal. From 2005, he ensured capability relations with NATO and with the European Defence Agency as a staff member in the Strategy Department of the Defence Headquarters. In 2013, he became the 24th Commander of the 2nd Tactical Wing. Under his command, the unit takes part in multiple missions. In July 2016, he became the first Belgian Head of the Combined Air Operations Centre in Uedem (GE), being responsible for the integrated Air and Missile Defence System of Northern Europe and for the support of Operations led by the 'Joint Forces Air Command' in Ramstein. In May 2018, he became the Deputy Chief of Staff for Operations and Training of the Belgian Defence.

On 17 September 2020, Major General Dupont became the 5th Air Component Commander and the 16th Belgian Air Chief.

He totals over 2,600 flying hours on thirty different types of aircraft.

