



Of Service

Stories of Solutions and Impact
1994-2024



DEPARTMENT OF
**OPERATIONAL
SUPPORT**

United Nations
Global
Service Centre

Cover: Since antiquity and across cultures, the olive branch has remained a symbol of peace. Peace itself, like some of the leaves in this image, may appear elusive or “out of focus.” However distant, it remains the unwavering aspiration that guides our every action; as part of the UN family, the United Nations Global Service Centre (UNGSC) stands resolute in supporting efforts to make sustainable peace a tangible reality for all.

Of Service: Stories of Solutions and Impact 1994-2024 is a publication dedicated to the 30th anniversary of the United Nations Global Service Centre (UNGSC), a leading provider of supply chain and digital technology services for the UN system, and part of the United Nations Department of Operational Support, Office of Supply Chain Management.

“Humanitarian response, sustainable development,
and sustaining peace are three sides of the same triangle.”

António Guterres, *United Nations Secretary-General,*
from his remarks to the General Assembly on taking the oath of office.

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Messaggio del Vice Presidente del Consiglio e Ministro degli Affari Esteri e della Cooperazione Internazionale, Antonio Tajani

Festeggiare il 30° anniversario del Centro Servizi Globali delle Nazioni Unite a Brindisi significa celebrare anche l'impegno dell'Italia per la pace e la stabilità.

Un impegno che si riflette nella stretta collaborazione con il Polo delle Nazioni Unite a Roma, centro delle discussioni su questioni globali cruciali come sicurezza alimentare e cambiamento climatico.

Un'azione di politica estera che vede anche un ruolo di primo piano del nostro personale militare e di polizia nelle missioni di pace delle Nazioni Unite, in tutti gli scenari più complessi nel mondo.

L'Italia ha messo questi temi anche al centro della propria Presidenza del G7, quale concreto e responsabile contributo alla soluzione delle molte crisi che attraversano l'agenda internazionale, in aree geografiche a noi anche molto vicine, come da ultimo l'Ucraina e il Medio Oriente.

In questo scenario, il ruolo della bella città di Brindisi come sede del Centro Servizi Globali delle Nazioni Unite è centrale, per la sua posizione al centro di quella vasta area che quello che chiamiamo il Mediterraneo allargato e che si estende fin oltre il Golfo di Aden. Così come per la stretta interoperabilità delle sue strutture portuali e aeroportuali con i grandi flussi della logistica mondiale.

Ma la scelta di Brindisi è stata una felice intuizione anche per la ricchezza del suo territorio e la professionalità degli operatori.

È anche grazie a questo che il Centro Servizi Globali è cresciuto negli anni fino a diventare un polo fondamentale per la fornitura di servizi innovativi e assistenza logistica alle missioni di pace e umanitarie delle Nazioni Unite in tutto il mondo.

Ringrazio particolarmente il Sindaco Marchionna e gli attivi parlamentari locali che fanno capo alla Città e che hanno saputo investire sulla sua vocazione internazionale – penso ad esempio alla riunione ministeriale sul Corridoio VIII che ho voluto tenere in città nel luglio dello scorso anno insieme ai Ministri degli Esteri di Bulgaria, Albania e Macedonia del Nord.

L'abbraccio della popolazione pugliese, il convinto sostegno delle Istituzioni nazionali e locali italiane hanno costantemente accompagnato l'attività del Centro – ormai indispensabile punto di riferimento nel sistema delle Nazioni Unite – e favorito importanti e fruttuose sinergie anche con il sistema nazionale italiano di risposta alle crisi.

I successi del Centro Servizi Globali delle Nazioni Unite sono motivo di orgoglio per il Governo italiano e per tutto il Paese. Guardiamo al futuro partendo da questo importante anniversario con l'ambizione di fare sempre meglio, insieme, per la pace e la sicurezza nel mondo.

A Message from Antonio Tajani **Minister of Foreign Affairs and International Cooperation of Italy**

Courtesy translation

The celebration of the 30th anniversary of the United Nations Global Service Centre in Brindisi is also the celebration of Italy's commitment to peace and stability.

Such commitment is reflected by the close collaboration with the United Nations hub in Rome, addressing critical global issues, such as food security and climate change.

Our foreign policy is characterized by the leading role of our military and police personnel serving in the UN peacekeeping missions, which operate in the most complex scenarios worldwide.

Italy has placed these issues at the core of its G7 Presidency, providing a tangible and responsible contribution to the solution of the multiple crises that unfold in the international scenario, often in areas very close to us, like Ukraine and the Middle East.

In this context, the role of the beautiful city of Brindisi as home of the United Nations Global Service Centre is crucial. Brindisi is indeed at the centre of the "enlarged Mediterranean," which extends even beyond the Gulf of Aden. It also features a close interoperability between its port and airport facilities and the main global logistics services.

Brindisi was also chosen for its rich territory and highly-skilled, local professionals. Thanks to all these elements, the Global Service Centre has developed over the years to become a fundamental logistics service provider for UN peace and humanitarian missions worldwide.

I would like to extend a special thanks to Mayor Marchionna and the active local parliamentarians who have invested in Brindisi's international vocation. Such vocation inspired my decision to organize, in Brindisi, the ministerial meeting on Corridor VIII last July, which was attended by the Foreign Ministers of Bulgaria, Albania and North Macedonia.

The warm welcome of the Apulian people and the strong involvement of Italian national and local institutions have consistently supported the activities of UNGSC – a crucial point of reference within the UN system – and also eased the establishment of fruitful synergies with the Italian crisis response system.

The success of the United Nations Global Service Centre is a source of pride for the Italian Government and for Italy as a whole. We look to the future considering this important anniversary as a starting point and aspiring to further contribute, all together, to global peace and security.



A Message from Atul Khare **Under Secretary-General for Operational Support**

Against the backdrop of difficult global challenges, the United Nations is steadfast in working towards the realization of peace, dignity, and equality on a healthy planet, and realizing the vision of the Secretary-General, set out in the New Agenda for Peace.

For the Department of Operational Support (DOS), this entails concrete action in many areas, from improving the performance and effectiveness of peace operations through holistic measures, to enhancing environmental management, facilitating the UN's digital transformation, providing medical facilities and support, and improving working conditions for women in the field, among other key priorities.

In the face of increasingly dangerous, complex, and high-risk environments, effective operational support is vital to enable missions to fulfill their mandates. As the United Nations Global Service Centre (UNGSC) marks its 30th anniversary, its breadth of expertise is needed, now, more than ever.

Throughout the decades, UNGSC has been a critical component to the successful implementation of our efforts, delivering integrated, tailored solutions for all supply chain and digital technology needs. Whether providing hands-on support to field missions to set up and improve camps in some of the world's most remote locations, or to help implement the DOS Environment Strategy, or effectively rolling out smart technologies for enhanced security and life support, UNGSC has proven itself to be a Centre of Excellence.

I am particularly grateful to the host countries of Italy and Spain for their hospitality and generosity, which allow UNGSC to benefit from the strategic locations of Brindisi and Valencia, as well as strong enabling capacities, and excellent facilities. Their support is a testament to multilateral partnership, nourished through dialogue, trust, and results.

To conclude, I would like to express my heartfelt gratitude to the UNGSC team for their spirit of innovation and service, and my congratulations on their 30th anniversary. I am confident that UNGSC will uphold the highest standard of performance to meet global challenges in the years ahead.



A Message from AnneMarie van den Berg **Assistant Secretary-General, Office of Supply Chain Management**

Dear Colleagues, Partners and Friends,

As we celebrate three decades of excellence, I want to express my deepest gratitude to the exceptional personnel whose tireless dedication, expertise, and unwavering commitment have been the driving force behind the achievements of the United Nations Global Service Centre over the past 30 years, during which UNGSC transformed from a modest initiative to a multifaceted hub of operational excellence, serving not only the needs of UN Peace Operations but, increasingly, supporting a diverse and unpredictable global operational landscape.

As a beacon of reliability and efficiency in the realm of logistics and technology support, the Global Service Centre has stood tall throughout its 30 years and is now embracing the challenges the future will bring, so that it may unleash new solutions and innovative approaches to continue its journey of service excellence.

I applaud all who have served here, who have been key to the success of UNGSC, for their continued drive to adapt, evolve, and respond to the ever-changing needs of the operations they support, in a world in which rapid change and growing complexities have become the norm.

We are proud to have the Global Service Centre as an integral part of the Office of Supply Chain Management and we look forward to further transitioning into OSCM 2.0, with a focus to harness the power of technology to transform field operations, strengthen supply chain circularity, and embed sustainability and client orientation into our DNA.

So, as we turn the pages of time in this anniversary book, we find ourselves at a remarkable milestone – a journey of 30 years filled with enduring dedication and remarkable achievements. This book is a tribute to the unwavering commitment that has been the cornerstone of UNGSC's success. Within these pages lies a tapestry of memories, a chronicle of growth, and a testament to a vision that has stood the test of time. Let us embark on this reflective voyage, honoring our past, celebrating the present, and looking forward to a future replete with endless possibilities.



A Message from Bernardo Mariano **Assistant Secretary-General, Chief Information Technology Officer**

Dear Colleagues,

It is with immense pride and a deep sense of accomplishment that we celebrate the 30th anniversary of the United Nations Global Service Centre (UNGSC). As we stand at this milestone, we reflect on the incredible journey we have shared, the remarkable advancements we have witnessed, and the lasting impact we have made. I am incredibly grateful for your contributions and collaboration, which have fueled our success and shaped our journey.

I want to underscore the great collaboration between the United Nations Global Service Centre and the Office of Information and Communications Technology throughout the years, citing a few key examples:

Building on the call from the Secretary-General to use data to inform decision-making and the vision of the Under Secretary-General of the Department of Operational Support to enhance the environmental management of United Nations operations, the Field Remote Infrastructure Monitoring (FRIM) platform has set the foundation for the successful use of Internet of Things (IoT) technologies in the field. This, in turn, has paved the way for the “UN Smart Camp” initiative, which utilizes cutting-edge technologies to increase service efficiency and availability in field missions, optimize costs, reduce in-mission carbon footprint, and improve safety and security, contributing to a positive legacy in host nations.

The UN Maps initiative also stands out as a model for cooperation among UNGSC, OICT, and field missions, providing peacekeeping and humanitarian actors with geospatial services and solutions for operational and planning activities, as well as capacity-building and state-building endeavors, empowering local and national communities.

Another area where UNGSC’s effective support has been key to success, is the management and operation of the Enterprise Data Centres (EDCs) in Valencia and Brindisi, where several United Nations Secretariat Enterprise Applications are hosted, notably “Umoja,” the UN Secretariat Enterprise Resource Planning (ERP) system. Under a Service Level Agreement (SLA) with OICT, a dedicated UNGSC team supports Umoja systems and maintenance, as well as critical projects for the on-going migration of Umoja software, database technology, and infrastructure.

This work is possible given the excellent technical capacity of UNGSC and the professionalism of its staff. Congratulations once again on this remarkable 30-year milestone, I look forward to witnessing the continued innovation and positive impact of the United Nations Global Service Centre in the years to come.



A Message from Giovanna Ceglie **Director, United Nations Global Service Centre**

Excellencies, Colleagues, Friends,

This year we celebrate the thirtieth anniversary of the United Nations Global Service Centre. It is a thirty-year story of transformation and accomplishment and your support has been a crucial part of this story as well.

Since its founding in 1994, as a supply depot, chosen for its strategic geographical location, UNGSC has evolved to become the unique, forward-thinking Centre we are today, responding to the needs of the UN and striving to achieve the vision of UN 2.0.

Five years ago, I had the privilege of joining the Centre as its director. For all the days since, the dedication, passion, inventiveness, and expertise of our staff has humbled and inspired me. Whether deployed to challenging locations, tackling complex engineering problems, or spearheading advancements in sustainability, the UNGSC team consistently rises to the occasion.

On this anniversary, I pay tribute to their strength and pride to serve and uphold the values of the United Nations. The talent of our staff and vision of our leadership has transformed our Centre into a global multidimensional hub, a bridge to action, translating strategic priorities from Headquarters into tangible outcomes across a diverse operational landscape worldwide.

We are the lifeline of the field, ensuring reliable information and communications connectivity even in the most remote corners of the globe.

We are a solutions factory, constantly learning, adapting, and innovating to address the ever-changing needs of colleagues serving on the ground.

Our successes are not ours alone; the vision and generosity of our Host Countries, Italy and Spain, the determination of our leadership, and the diverse partners we work with, are all critical elements of our trajectory and of our success.

This publication, entitled *Of Service: Stories of Solutions and Impact 1994-2024*, is an introduction to some of UNGSC's endeavors, with an emphasis on the perspectives of clients, partners, staff, and on the spirit of service that connects us.

As the challenges posed by global events continue to evolve, the UN's mandate has never been more vital. We at UNGSC remain ready to serve, working together with our clients and partners, growing with our communities in Brindisi and Valencia, and delivering solutions for positive impact now and for the decades to come.

Thank you for being part of this journey!



Service is Stewardship

Good stewardship of the environment has been widely recognized as an integral part of peacebuilding and sustainable development and is increasingly reflected in UN Security Council mandates for peace operations, including in the most volatile, high-risk areas.

The United Nations Global Service Centre is instrumental in providing the technical support to translate this priority into action, under the guidance of the Department of Operational Support, Office of Supply Chain Management.

The fundamental reference in this area is the DOS Environment Strategy. In this chapter we'll take a closer look at what has been achieved since the Strategy's inception, what to expect in the coming years, and consider a case study in the field.

We'll also hone in on the significant advances towards a circular supply chain, effectively transforming the sustainability of the UN's operations from end-to-end, reducing both costs and carbon footprint.

Responsibility, Ambition, Legacy:

“The Way Forward: Environment Strategy for Peace Operations 2023-2030,” Background and Objectives

Environmental management in peace operations is a strategic priority for the United Nations, as field missions account for 87% of the UN Secretariat’s greenhouse gas emissions and 48% of those of the entire UN system.¹ To offer some background and share key achievements in this area, the Department of Operational Support (DOS) shared insights:

DOS provides support to all UN Secretariat entities globally but focuses on areas where there is the most risk and greatest impact, mainly peace operations. Besides deploying a hundred thousand civilians, police, and military personnel, many peace operations are in hard-to-reach places where infrastructure may be inadequate or damaged through conflict. As a result, peace operations often need to be entirely self-sufficient, including for energy, water, and waste management, which leads to a significant environmental footprint. If not managed properly, they can pose risks to personnel, host communities, ecosystems, as well as the reputation of the UN.

With this in mind, in December 2016, DOS launched the “Environment Strategy for Peace Operations,” covering peacekeeping and field-based special political missions and providing a framework for accountability in the areas of energy, water and wastewater, solid waste, environmental management systems, and wider impact.

What has been accomplished after six years?

An analysis of the progress made during the implementation of the strategy from 2017 to 2023²

¹ Source: Greening the Blue Report 2023

² See Review of the Environment Strategy 2017-2023

The UN operates over 400 individual sites ranging from 30 to 4,000 people in diverse geographic and climatic conditions.

revealed that field missions have made significant progress in several areas, from wastewater risk reduction to energy efficiency. This has been achieved within an often volatile political context and despite a range of security hazards and operational challenges, not least being the impact of COVID-19 on supply chains, logistics, and operations. Working closely with the Environment Section in the Office of the Under-Secretary-General, UNGSC’s Environmental Technical Support Unit (ETSU) was instrumental in providing specialized technical support to missions for the implementation of the strategy.³

³ Strategic, policy, guidance, training, and technical support are provided by the Environment Section in the Office of the Under-Secretary-General (OUSG) of the Department of Operational Support, the Environmental Technical Support Unit (ETSU) in UNGSC (part of DOS), and the Rapid Environmental and Climate Technical Assistance (REACT) team of experts.



Solar farmer working with the UN Interim Force in Lebanon (UNIFIL) cleans solar panels, UNIFIL, Naqoura, Lebanon. UN Photo/Pasqual Gorriz.

Key accomplishments since 2017 include:

- **Improved planning and decision-making based on reliable field data:**

- Before the Environment Strategy was launched, DOS relied on anecdotal evidence and estimates of field missions' environmental performance. Six years later, DOS has established a robust performance and risk management system called eAPP, "environmental Action Planning and Performance." The online platform is used to collect data for over 100 performance indicators (KPIs) from more than 400 sites every six months, providing data and analysis on resource consumption, wastewater and waste generation, energy efficiency, etc., and to identify potential risks that need to be addressed.
- Based on this data, annual environmental scorecards are produced which provide an overview of each of the mission's performance, support senior mission leadership in making data-driven decisions, and strengthen accountability to Member States.

- **Improved overall environmental performance:**

- Overall performance: Missions' environmental scores have significantly increased since the start of the Strategy's implementation, with the average

score now at 81 out of 100 points, compared to 61 in 2017-2018.

- Wastewater risk: 70% of sites now have fit-for-purpose wastewater treatment systems, deemed to be at "minimum risk." This is double the number of sites from the outset of the Strategy. Since 2021, no significant risks in wastewater were reported across peacekeeping. This is a major improvement from the beginning of the strategy at which time eight missions were found to be operating at significant risk at some sites.
- Waste: The proportion of solid waste that is now managed with preferred disposal methods is on the rise, with two thirds of waste now managed through methods such as composting, recycling, and reuse, and the use of appropriate incinerators. Waste management yards have been established in several missions to improve waste segregation and systems for reuse and recycling.
- Energy efficiency: Fuel use per capita per day in electricity generation has decreased in six years from 4.1 to 3.7 litres. While seeming modest as a per capita figure, in aggregate terms, this represents a reduction of 15 million litres of diesel per year (a reduction of around 10%).



- **Established communities of practice:**

DOS has established working groups and communities of practice composed of mission representatives, which meet every couple of months and serve as platforms to share best practices and discuss common issues.

What is on the horizon?

Following the mandate from UN Member States to continue efforts in this area beyond the initial period of the strategy, DOS led an extensive consultation process with field missions, Member States, other UN entities and partners, to develop the strategy's continuation to 2030. Drawing on input received, "The Way Forward: Environment Strategy for Peace Operations 2023 - 2030" was developed, covering the period until 2030 and building on the progress made since 2017, with a view to supporting host governments with their own progress towards the wide-ranging goals set out in the Agenda 2030. The strategy focuses on three key themes: responsibility, ambition, and legacy.

- **Responsibility:**

Continued vigilance in managing risk, particularly in relation to wastewater and hazardous waste, and ensuring that all missions are taking appropriate actions during the sustainment phase to prepare for responsible closure.

- **Ambition:**

Supporting efforts to transition to renewable energy and assisting missions in demonstrating improved efficiency and operational resilience. Reducing waste generation as well as water use and electricity consumption.

- **Legacy:**

Supporting missions in designing their footprint to leave a positive legacy in host countries and ensuring that the operation and maintenance of systems and infrastructure are led by those who are expected to operate these after the mission's departure, wherever possible.

The strategy will continue across the five operational pillars of energy, waste, water and wastewater, environmental management systems, and wider impact, building on the successful work done by the diverse teams in the field responsible for these areas.

The Field Advisory Committee on Environment (FACE), comprised of Directors / Chiefs of Mission Support, as well as the Group of Friends for Leading on Environmental Management in the Field (LEAF), a group of over 30 Member States that is co-chaired by Bangladesh and Italy, have been actively engaged in the implementation of the strategy and will continue to play a critical advisory role going forward.

The approach remains mission-led, with a key change: stronger emphasis placed on missions' multi-year management plans for waste, wastewater and energy, and on supporting missions in setting their own performance targets, for senior leadership and Member State consideration, as part of the budgetary process. Through this approach, DOS aims to strengthen the link between performance and budgetary investments and to drive forward consistent implementation to achieve the vision for 2030.

"The Way Forward: Environment Strategy for Peace Operations 2023-2030," as well as the review of the first six years of the strategy (2017-2023), can be found at operationalsupport.un.org/en/environment.

Photos left to right: Environmental Management at the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), photo courtesy of MINUSMA; Treated wastewater reuse at the United Nations Disengagement Observer Force (UNDOF), photo courtesy of UNDOF; Waste management yard construction at the United Nations Interim Security Force for Abyei (UNISFA), photo courtesy of UNISFA.

Supporting the Transition to Renewable Energy

With most energy in field missions provided by diesel generators, this is an area requiring greater attention. Currently, only around 7% of energy comes from renewable sources, with an increase of approximately 1% per year over the last three years. The transition to renewable energy in the field is a high priority as it will help increase savings and efficiencies, reduce missions' environmental footprint, and improve safety and security, with a lower need to deliver fuel along dangerous routes.

As part of this transition, the UN Secretariat is exploring options to outsource renewable energy to local utilities or private power producers active in the host community, working with governments, potentially anchoring investments that will leave a positive legacy for both infrastructure and peacebuilding during and after the respective mission's departure.

Considering the low electrification rate in several host countries, where some of the biggest missions account for 20% or even up to 40% of the overall national electrical demand, it is important for peace operations to strive to meet their own needs in a way that can also have a lasting positive impact for host communities. In line with this, the Energy Compact on Renewable Energy for Peacekeeping⁴ was launched by Norway and

the United Arab Emirates, and signed by the Under-Secretary-General (USG) of DOS and the USG of the Department of Peace Operations (DPO), the Special Representatives of the Secretary-General (SRSGs) for several missions, as well as several host countries and UN Member States, demonstrating their commitment to work together on renewable energy projects. Energy outsourcing projects, including those considered through the Energy Compact, could have considerable benefits in that they can minimize upfront capital outlay and leave a positive legacy by supporting investment in climate resilient infrastructure in locations where the mission site is near a community in need of electrification.

These initiatives occasionally extend beyond field missions and are sometimes embraced by Secretariat entities interested in leveraging the experience gained over the past six years serving peacekeeping, however. For example, UNGSC's Environmental Technical Support Unit (ETSU) has also been engaged by the United Nations Office at Nairobi (UNON) to develop a project that will help the office achieve energy neutrality. Technical support included providing cost estimates, energy consumption vs. production analysis, and design plans for a renewable energy system, incorporating Field Remote Infrastructure Monitoring (FRIM).

⁴ un.org/en/energycompacts



Baidoa solar photovoltaic power plant. Source: Kube Energy.



From Strategy to Reality:

A Case Study with the United Nations Assistance Mission for Iraq (UNAMI)

In light of the priorities identified in the DOS Environment Strategy for Peace Operations, the United Nations Assistance Mission for Iraq (UNAMI) is setting a valuable example in implementation. Driven by UNAMI's dedication to environmental stewardship and operational efficiency, and engaging the support of UNGSC, the mission is making great progress in transitioning to renewable energy, while reducing costs, and contributing to a positive legacy.

Deploying turnkey renewable systems, which integrate multiple energy sources, UNAMI is able to generate 5 GWh of clean energy annually, which amounts to approximately 50% of total annual energy use, and USD 0.5 million in yearly savings. Harnessing the power of the sun reduces UNAMI's reliance on traditional energy sources and demonstrates the feasibility and potential of renewable energy in the region. Embracing microgrid technology, UNAMI is set to install energy storage solutions that will eventually render diesel generators obsolete.¹ These conservation measures complement UNAMI's sustainable energy management efforts, optimizing energy usage across facilities, adopting energy-efficient practices, and fostering a culture of environmental awareness among personnel. The programme also has the potential for excess energy penetration into the local grid. This forward-thinking approach aims to strengthen the local energy infrastructure and leave a positive legacy in the host community without incurring additional cost.

In support of UNAMI's vision and commitment to sustainability, the United Nations Global Service Centre's Environmental Technical Support Unit (ETSU) helps to advance these efforts. UNAMI Environmental Affairs Officer, David Saginadze explains: "UNAMI operates in a region where environmental concerns are critical; we are therefore taking bold steps to mitigate our environmental footprint. My responsibility

entails offering support and implementing initiatives alongside the Office of Chief Mission Support (OCMS) to enhance the mission's environmental performance. Our mission aims to achieve ambitious targets to contribute to the Sustainable Development Goals (SDGs). These objectives include increasing the share of renewable energy by 50% of the mission's total demand, transitioning towards zero waste to landfill, and reducing freshwater consumption by an impressive 40%.

"UNAMI operates in a region where environmental concerns are critical; we are therefore taking bold steps to mitigate our environmental footprint."

One of the elements in accomplishing these targets has been the valuable support provided by UNGSC's Environmental Technical Support Unit (ETSU), which commenced during the design phase of our solar photovoltaic (PV) installation. Their technical support and recommendations ensured the efficient and effective setup of our solar infrastructure, optimizing renewable energy generation and utilization within our mission.

Their input was also instrumental in solid waste management and wastewater treatment: The selection and installation of equipment for our waste management systems enabled us to move towards the mission's objective of a more sustainable waste management process. Their recommendation and support with the implementation of a high-quality Moving Bed Biofilm

¹ Currently, diesel generators remain a secondary back-up power source, with batteries serving as the first back-up.

Left: "Sunset over Iraq." Source: UNAMI Photo library.



Left to right : UNAMI waste management operators process garden waste into compost; UNAMI Project Manager and Solar PV Turnkey Project Manager from North Power Company. Photos by David Saginadze.

Reactor (MBBR) for our wastewater treatment systems significantly enhanced our wastewater treatment capabilities, ensuring lower risk, higher efficiency, and adherence to environmental standards.

This project also involved inter-agency cooperation with UNICEF, based on their vast local experience incorporating wastewater treatment technologies in Iraqi hospitals. Through this partnership, we were able to reduce freshwater consumption in UNAMI-managed facilities and amplify environmental benefits by reusing treated water

to deploy an automated irrigation system, clean solar PV panels, produce compost, and support sanitation.

Overall, these effective collaborations have helped UNAMI make considerable strides in its environmental sustainability programme, as well as build excellent technical capacity in the UNAMI Engineering Section. Together, we are committed to not only meeting but surpassing our environmental goals, setting a precedent for innovative, sustainable practices within other UN field missions.”

Capacity building and knowledge-sharing based on UNAMI's experience and that of other missions implementing the DOS Environment Strategy are facilitated by environmental communities of practice. To explore this resource and learn from practitioners in technical and management areas, from both UN Headquarters and the field, visit ungsc.org/our-networks or contact environmental@un.org.

Content for this article was sourced in part from the DOS Environmental Good Practice 2023 report.

Source: UNAMI Photo library.



"Our Future; Our Responsibility" Youth of Iraq Climate Action Hackathon, Basra [2022]
 "مستقبلنا، مسؤوليتنا" هاكاثون شباب العراق للعمل المناخي، البصرة [2022]
 "أهلنا وحملنا: مسؤولية جيلنا" هاكاثون بيئي مناخي لطلاب البصرة [2022]

Environmental stewardship at UNGSC is not limited to actions in the field; in line with the Sustainable Development Goals, which call for a comprehensive approach, efforts are underway to enhance sustainability and efficiency at all levels of the supply chain.

Towards a Circular Supply Chain

by Ana Martinovic

In recent years, the term “circular supply chain” has gained increasing attention, particularly in the context of sustainable development and environmental responsibility. It stems from the concept of a “circular economy,” defined as “a system where materials never become waste and nature is regenerated. Products and materials are kept in circulation through processes like maintenance, reuse, refurbishment, remanufacture, recycling and composting.”¹

As environmental concerns and resource scarcity become more pressing issues globally, businesses and other types of organizations are increasingly looking for ways to redesign their supply chains to operate more sustainably, and the concept of circularity is a key part of this important shift. Since its establishment in 2019, the Office of Supply Chain Management (OSCM) has been transitioning to more circular supply chains, with initiatives aimed at reducing waste and optimizing the use of resources across the Secretariat. Activities were developed and implemented with peace operations and other clients to enhance waste management and recycling, reduce product packaging, scale down the use of single use plastics, and introduce packaging take-back schemes, among many others.

A significant advance in terms of introducing circularity on a larger scale has been the launch of the Return, Refurbish and Reuse (3R) Programme, managed by the United Nations Global Service Centre (UNGSC). The programme was established during the drawdown of the African Union - United Nations Hybrid Operation in Darfur (UNAMID) when 103 high-value and low-utilization assets such as well drilling rigs, aviation fuel trucks, heavy earth moving equipment, and the like, were transported to Brindisi for refurbishment and subsequent reuse in other missions where they were needed.

Several refurbished UNAMID assets are now already in use in missions in the Democratic Republic of Congo (MONUSCO), Western Sahara (MINURSO), Libya (UNSMIL), and Somalia (UNSOS), with others on their way to Abyei (UNISFA). According to estimates, with the

deployment of only 24 refurbished ex-UNAMID assets, the Organization averted spending approximately USD 2,450,000.

“A significant advance in terms of introducing circularity on a larger scale has been the Return, Refurbish and Reuse (3R) Programme.”

Building on that experience, 3R has become integrated into UNGSC’s asset management approach. “We are monitoring over 4,000 units of equipment across field operations to ensure high-value assets are maintained and used most effectively,” noted Herbert Pechek, Chief of UNGSC’s Supply Chain Service (SCS). “For example, a water well drilling rig used to drill a couple of wells in one location cannot achieve a return on investment when parked in a warehouse. Such an asset must be both well maintained and put to use where and when needed. Through the 3R Programme we are making huge steps in ensuring more optimal use of existing resources, as well as additional cost avoidance.”

With the closure of the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA), UNGSC is identifying MINUSMA assets that will be integrated into the programme and given a new lease on life at another location. Hyun Gentry, Chief of the SCS Delivery and Return Section, elaborated: “Instead of opting to purchase new equipment, field operations can come to us and, for a fraction of the cost, access equipment that is as good as new, without long delivery

¹ ellenmacarthurfoundation.org



Excavator recuperated from UNAMID and refurbished at UNGSC, before and after. Photos by Gianluca Avantaggiato.

lead times. In addition, entities holding equipment that is no longer needed or cannot be maintained or repaired on location due to unavailability of expertise, can opt to trade in their equipment for other refurbished items that they need to meet immediate operational requirements.”

Ebrima Ceesay, Director of Mission Support at the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) shared his perspective: “Circularity in the supply chain makes economic sense and supports good environmental management. Whether it is the reuse of refurbished high-valued vehicular assets or the recycling of plastic waste for the construction of walkways, MONUSCO has partnered with DOS and UNGSC to realize timely and sustainable supply chain solutions. Scaling up the 3R initiative to include other materials and exploring options for refurbishment closer to missions, will improve efficiency and contribute to the positive legacy of peace operations.”

The 3R Programme also taps expertise from across UNGSC’s Services, for example, 3D Printing as a Service (3DPaaS), a flagship initiative of UNGSC’s Service for Geospatial Information and Telecommunications Technologies (SGITT) which prints essential, non-mechanical spare parts, in house, using a Complete Plastic Recycling System, ensuring that waste generated during the printing process is minimized and put to good use, with all discarded plastic materials collected and shredded to create new filament.

UNGSC Director, Giovanna Ceglie emphasized the importance of 3R in working towards the UN’s Sustainable Development Goals: “In addition to promoting resource stewardship across the

Organization, the 3R Programme increases the Organization’s return on investment by extending assets’ lifecycle. It is of vital importance to note that it also reduces waste and aligns with Sustainable Development Goal (SDG) 12 dedicated to responsible consumption and production and SDG 13 addressing climate change. We believe that this is a win-win scenario for our client entities, the Member States, and, ultimately, the environment. We encourage our clients and partner Organizations to tap into this important resource and do their part in this collective effort to achieve the SDGs.”

To learn more, contact ungsc-supplychainservice@un.org.



This Fire Truck Boot Loader, 3D printed at UNGSC, enabled an inactive asset valued at over 300K to once again become operational. Image courtesy of UNGSC.

Ana Martinovic is Programme Management Officer in the UNGSC Supply Chain Service.



Service is Transformation

Technology is transforming the UN's operations, accelerating progress in a range of areas from the environment to security and data-driven decision-making. In this chapter, we'll take a closer look at some of the ways in which UNGSC, in partnership with the UN Office of Information and Communications Technology (OICT), is leveraging technology to support the needs of field missions and achieve a positive legacy in host communities.

“In the 21st century, digital technology is critical to both business continuity and optimization. We are proud to support both areas; delivering high quality uninterrupted service and ensuring that our clients can leverage the transformative capabilities of digital technology to benefit their mandate delivery.” Michel Bergeron, Chief, UNGSC Service for Geospatial Information and Telecommunications Technology



UNGSC teleport in Brindisi. UN Photo/Luca Nestola.

From its Twin Technology Centre in Brindisi, Italy, and Valencia, Spain, UNGSC provides a direct single point of contact for digital technology services and solutions.

Working together with field missions and the United Nations Office of Information and Communications Technology (OICT), UNGSC helps ensure round-the-clock, resilient information and communications technology that can withstand even the most challenging circumstances.

The transformational and specialized technology showcased throughout the publication complement core services focused on connectivity, providing infrastructure and technology for data, voice, and radio communication, including leased line and satellite connections; hosting, providing server and data storage and related resources to manage and deliver content, such as websites, applications, and data in the UNGSC hybrid cloud; real-time monitoring and analysis; as well as solutions support for a broad range of business applications.



UNGSC teleport in Valencia. UN Photo/Luca Nestola.

UNGSC's Service for Geospatial, Information and Telecommunications Technologies (SGITT), in partnership with the Office of Information and Communications Technology (OICT), is always attuned to new technologies that may enhance the UN's operations and works to tailor them to clients' needs. To explore some of the technological developments on the horizon, we invited Info-Tech's "Technology Trends" researcher, Brian Jackson, to share his views.

Emerging Technology for the Future of Peace Operations

By Brian Jackson

Technology will play a crucial role in the future of peace operations, from enhancing real-time situational awareness to facilitating remote communications and on-site acute healthcare, among other vital areas. While the only certainty about the future of peace operations may be uncertainty, the UN will need to build resilience to face new threats and unpredictable conditions, exacerbated by climate change and population growth. At the same time, the pace of technological change will continue at an exponential rate. It will be important to harness its capabilities to achieve operational success. Advances in miniaturization, materials, and wireless communications can strengthen the United Nations' ability to deliver security to troops on the ground and protect local populations.

In this article, I'll highlight three key emerging technologies that could play a role in that future. I'll place each into one of the categories defined in the Technology Source Book shared at the United Nations at the Leaders' Summit on Peacekeeping.

Small and mighty – next-generation micro-devices are ready to help detect and protect

Technology: Micro-Electro-Mechanical Systems (MEMS) sensors and actuators

Category: Information-led operations and situational awareness

Evidence of subterranean warfare dates back millennia. While the strategic purposes throughout time bear similarities, the technology available to detect threats or conduct rescue operations underground has dramatically evolved. A major development is in the area of cutting-edge sensors¹ deployable by hand or drone, with the ability to detect minute variances in gravity. When a tunnel is bored underground, a gravity sensor on its surface will show a slight dip in force compared to solid ground. These small sensors allow for improved situational awareness.

¹ These sensors are developed by Silicon Microgravity.

Complementing gravity sensors with gyroscopes and accelerometers enables the collection of information about where something is located, how it's oriented in space, and how fast it's moving. MEMS technology uses a manufacturing process like printing a semiconductor to create tiny mechanical components that are hundreds or thousands of times smaller than the width of a single hair. Think of simple mechanical tools, such as springs, levers, or gears, but at a microscopic scale, made of silicon, and integrated into an electronics chip. The combination of these components allows for both sensing the environment and taking action in a very efficient package that is also resilient to harsh environmental conditions. It's a technology that's long been in development but is more recently experiencing compelling advances, such as including a resonant sensing technique for improved accuracy and sensitivity.

MEMS-based devices can also be more than sensors. A new wave of MEMS-based speakers² might bring a new standard of quality to a category that's been made the same way for decades. Instead of an electromagnetic coil as the sound driver, they use a microscopic silicon actuator and diaphragm. Not only do these speakers produce a broader range of frequencies than typical speakers, but the device is small enough to be incorporated into the

² The MEMS-based speakers are currently being produced by XMEMS.



UNGSC-UNCAP Uncrewed Aircraft System (UAS) Training, Timbuktu Camp, MINUSMA. Photo by Arturo Ojeda Demaria.

smallest earbuds, or even hearing aids, and more resilient to water, dust, or impact.

The usefulness for peacekeeping applications is clear, as such speakers could be incorporated into combat helmets, extended reality headsets or glasses, or discrete in-ear wires, delivering clear communications, while standing up to the rigors of a conflict zone.

MEMS-based devices may already support some of the technology used in peace operations. MEMS-based gyroscopes are used for navigation systems in aircraft, drones, and satellites, for example. MEMS-based microphones are found in smartphones. It's likely the uses will continue to expand, and these tiny devices will be hidden components of more complex systems used for surveillance and reconnaissance, communication networks, unmanned vehicle operation, and biometric monitoring.

Sky and space – new-wave comms infrastructure that's truly anywhere and everywhere

Technology: Satellite internet, 6G cellular communications

Category: Expeditionary basing and logistics

The UN delivers peace operations worldwide, including in remote areas lacking communications infrastructure. Yet modern-day data and voice connectivity are crucial for operations, which is why UNGSC deploys Modular Command Centres globally that provide all the communications technologies required for peacekeeping operations, with more than 100 in the field as of 2023. In the future, these modular centres will tap into emerging technologies such as satellite internet and 6G cellular to provide even more resilient and agile communications.

Satellite internet in the past required large fixed-dish receivers and suffered from poor upload performance, making it unsuitable for peace operations. But new commercial networks being built by two tech giants are changing the equation: Starlink is the most advanced, with reportedly more than 5,000 satellites already in orbit.³ Amazon is planning to compete with Starlink and currently has plans for a 3,236 satellite constellation, with the first couple of satellites being launched late last year, according to the company.⁴ Starlink and Amazon both plan to offer high-speed broadband Internet rivaling the speeds of terrestrial networks today. The appeal for peace operations is the global accessibility of these high-speed networks. So long as there is a line of sight into the sky, a base terminal can be deployed and connected. Terminals can be as small as 7-inches square, meaning even a field unit could fit one into a backpack and set it up on a table to connect.⁵

Aside from space-based connectivity, terrestrial communications are also continuing to advance. Researchers working on sixth-generation wireless networks (6G) are developing enhancements in cellular technology such as self-configuration, self-optimization, and self-healing, according to Canadian not-for-profit organization Mitacs.⁶ These advancements will make wireless communications more suitable for the tactical capabilities required by peacekeepers in the field.

Mitacs awarded Professor Georges Kaddoum for his research advancing wireless networks, with new

³ space.com/spacex-starlink-satellites.html

⁴ aboutamazon.com/news/innovation-at-amazon

⁵ idem

⁶ mitacs.ca

capabilities that sense and adapt to the environment to avoid communications disruption. His work infuses machine learning techniques into networking, enabling quick and resilient deployment into a tactical environment and making networks resistant to electromagnetic attacks, and deployable in mobile environments without the need for fixed infrastructure. Such networks could support critical applications like telemedicine and remote surgery.

Mind and body – remote healthcare to sustain peacekeepers

Technology: Biometric sensors, hi-fidelity real-time communications

Category: Medical support

Advances in medical technology could help improve healthcare for peacekeepers, both from a critical care perspective and, proactively, to keep troops healthy and alert in the field of operations. The UN's Action for Peacekeeping (A4P+) Priorities for 2021-2023⁷ includes a commitment to support troops with improved medical care, using technology. This includes the use of telemedicine, remote diagnostics, and mental health support.

Remote telesurgery using robotics is continuing to evolve and become more available. Surgical systems enabling minimally invasive techniques have long been in operation.⁸ They have also been used to successfully complete remote surgery through a high-speed network connection. With the introduction of 5G wireless technology, teleoperated surgical robots gain a wider reach beyond places where a fiber-optic connection is available. This has piqued the interest of militaries around the world because of the prospect of providing crucial surgical procedures to troops on the battlefield, saving time from a transfer to more suitable medical facilities. UN peacekeeping operations could similarly benefit from such capability.

A mobile autonomous telesurgery unit proposed by researchers from the National Autonomous University of Mexico (UNAM)⁹ would be connected through 5G wireless, and include a robotic surgery room, a preparation room for patients, a sterilization area, a medical staff

⁷ peacekeeping.un.org/en/a4p-action-peacekeeping-priorities-2021-2023

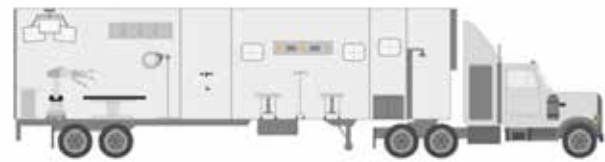
⁸ Namely, the da Vinci Surgical System from Intuitive Surgical.

⁹ [sciencedirect.com](https://www.sciencedirect.com)

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The views expressed in this article are those of the author and do not reflect those of the United Nations, including UNGSC, and shall not be construed at any time as an endorsement or preference by the United Nations, including UNGSC, of a particular business sector entity or its products or services, or of any technology or provider.

station, and a stock of medicine. An uninterrupted power supply, climate control, and potable water supply would also be required.



A scheme of a surgical mobile unit. Credit: Navarro, Ramos Álvarez, and Soler Anguiano, "A New Telesurgery Generation Supported by 5G Technology."

A similar type of mobile unit, perhaps built into crates similar to UNGSC's modular command system, could be imagined for peace operations, both for critical interventions, and for proactive monitoring of peacekeepers' health.

A model offered by consumer healthcare membership services¹⁰ could be emulated by the UN for its peacekeepers: Leveraging a network of autonomous and connected CarePods, patients use a mobile app to track key metrics about their own health, including cardiovascular and mental health, as well as monitoring for critical conditions such as diabetes. They supplement data they can manually input into the app or update via a wearable device by booking an appointment in one of the CarePods. The health assessments include flagging conditions like anxiety and depression. Test results and diagnostic data are shared with a physician, and a care plan is created.

A similar peacekeeper-focused healthcare service could be imagined with biometric-monitoring wearables and diagnostic tools in a mobile unit deployed to the field of operations. Perhaps some of the wearables would even be MEMS-based devices.

The future of UN peace operations is bound to be more challenging with increased uncertainty, higher demands, and new threats to counteract. To ensure mission success and improve the safety and performance of peacekeepers, it will be important to tap the capabilities of emerging technologies that are small and mighty, strengthen communications reach through the sky and into space, and support individual peacekeepers' health of body and mind.

¹⁰ The author's example is based on GoForward Inc.

Understanding UN Smart Camp: A Conversation with the Republic of Korea, UNISFA, and UNGSC

UN Smart Camp is a cross-cutting initiative rendering vital services accessible in some of the world's most remote and challenging locations. Its implementation connects no less than three key UN strategies on Environment, Data, and Digital Transformation.¹ What is a UN Smart Camp, and why is it a gamechanger for UN operations? To help answer these questions, we'll hear from three key actors, namely, the Republic of Korea (RoK) Ministry of Foreign Affairs and Ministry of National Defense,² who proposed the concept; UNGSC,³ which helped introduce smart technology in field missions and is enabling implementation across peacekeeping missions; and the United Nations Interim Security Force in Abyei (UNISFA),⁴ where UN Smart Camp is being brought to fruition.

¹ The DOS Environment Strategy, the Secretary-General's Data Strategy, and the Strategy for the Digital Transformation of UN Peacekeeping.

² Input provided by the Republic of Korea's Ministry of Foreign Affairs and Ministry of National Defense.

³ Input provided by Michel Bergeron, Chief of UNGSC's Service for Geospatial, Information and Telecommunications Technologies (SGITT) and Samuel Leal, Chief of SGITT's Technology Development Design and Planning Unit.

⁴ Input provided by Robert Kirkwood, UNISFA, Chief of Mission Support.



Digital Twin of Dukkra Camp, mirroring the Camp's infrastructure data. Image courtesy of UNGSC.



Partnership for Technology in Peacekeeping Symposium. Photo courtesy of UNGSC.

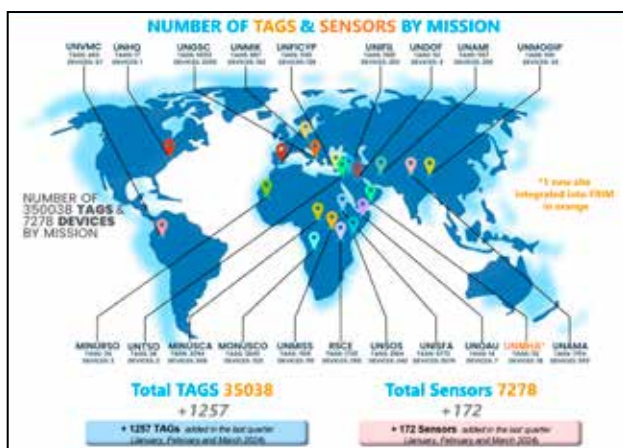
Q: How did UN Smart Camp emerge?

UNGSC: In 2017, UNGSC embarked on a journey demonstrating the benefits of the Internet of Things⁵ (IoT) for environmentally responsible resource management in the field with our flagship initiative, Unite FRIM (Field Remote Infrastructure Monitoring), which provides real-time data collection and analysis by monitoring and connecting smart infrastructure and equipment, such as water meters, energy meters, and fuel meters.⁶

These efforts coincided with the impetus from the Secretary-General to use data to inform decision-making and helped realize the vision of the Under Secretary-General (USG) of DOS to enhance the

⁵ The Internet of Things (IoT) refers to a network of physical devices, vehicles, appliances, and other physical objects that are embedded with sensors, software and network connectivity that allows them to collect and share data. These devices — also known as “smart objects” — can range from simple “smart home” devices like smart thermostats, to wearables like smartwatches and RFID-enabled clothing, to complex industrial machinery and transportation systems. Source: IBM.

⁶ See FRIM Quarterly Report January-March 2024, below.



environmental management of UN operations. Unite FRIM in this sense effectively set the foundation for what would become UN Smart Camp, in the domain of “life support,” and helped pave the way to take the UN Smart Camp initiative forward, when it was formally proposed by the Republic of Korea. Moreover, there was a demand from missions for technology to enhance base security and the protection of personnel, which would lead to the second pillar of UN Smart Camp, in the security domain. In parallel, the third pillar, namely property and asset management, also emerged as a priority that UNGSC could address with this initiative. We were fortunate to generate momentum and even receive additional support from academia, with the Barcelona-based ESADE University participating in some of the early analyses of IoT data management.

RoK: The concept of “UN Smart Camp” was inspired by the “Smart City” concept. Over the course of the past few decades, Korea has applied technological advances to address problems in urban areas. Today, most of our cities possess an intelligent traffic system, as well as an advanced crime prevention and disaster prevention system, relieving congestion and enhancing the safety of our citizens and infrastructure.

UN Smart Camp can utilize technologies, such as AI, integrated control, as well as Internet of Things (IoT), to build a management system that connects and integrates the troops, equipment, facilities, and resources within a mission into a single network, improving safety and operational efficiency.

We first introduced the idea at the UN Open Geospatial Information Forum held at UNGSC in Brindisi, Italy in 2017, and officially presented it at the 5th International Partnership for Technology in Peacekeeping Symposium in 2019.

“If it can be done in the non-permissive environment of UNISFA, why not elsewhere?”

Q: Why was UNISFA chosen to pilot Smart Camp?

UNISFA: UNISFA is the most remote peacekeeping operation in the world. It is the only one where a helicopter is required to get to mission headquarters. In our whole area of operations, there are zero municipal services, utilities, waste yards, or sewage systems. The risk of black water spillage is extremely high, as the land is flat, and contamination could easily spread to the civilian population. Power is essential for all activities: Every liter of water needs to be produced and treated; liquid and solid waste must be disposed of according to environmental obligations; temperatures reach the mid 40s Celsius with high humidity, so cooling is necessary. However, power outages used to be a regular occurrence, with detrimental consequences. In that sense, any initiative that could improve conditions here is worth a try.

Moreover, as the physical infrastructure of UNISFA was inherited from the United Nations Mission in Sudan (UNMIS), with many components due for replacement, we had the opportunity to rebuild to the best standards, incorporating new technological advancements. Finally, UNISFA is an ideal “sandbox.” Sensors and meters that meet requirements on paper might be destroyed in 46 Celsius with 80% humidity, wind, dust, and fauna. By piloting ideas in this setting, we can see what’s feasible and help improve technological solutions. We provide feedback to UNGSC, which serves as the main technical backstop and service provider for Smart Camp implementation and can apply lessons from UNISFA to other locations. If it can be done in the non-permissive environment of UNISFA, why not elsewhere?

UNGSC: UNISFA presents unique supply chain challenges to deliver its mandate, so it makes sense to leverage technology wherever possible. However, UNISFA’s leadership, proactiveness, and willingness to incorporate the automation of functions and reporting, and to make decisions based on reliable data, were key to its selection for a pilot Smart Camp project. Thanks to extra-budgetary funding from the Republic of Korea, we were able to run the pilot in UNISFA’s Dukkra Camp, which then went on to be officially inaugurated by the USG of DOS as a “Smart Camp” in 2023. The success of the pilot also led to a determination by DOS that Smart Camp should be rolled out to all missions. UNGSC is uniquely positioned to support this endeavor based on our breadth of expertise, as well as our capacity to deliver integrated and tailored solutions to the field.



Dukkra Camp, UNISFA. UN Photo/Arvin Willy Fajardo.

Q: What benefits have been realized thus far?

UNISFA: As early adopters of new technologies, we also have the advantage of being early beneficiaries. The implementation of Smart Camp has already changed our reality. UNISFA is primarily a military mission with a mandate to protect civilians. Camps are where the peacekeepers are sustained, so they can better execute their mandate. Technology acts as a multiplier in this regard.

With the self-regulation of power generation, drinking water, treatment of water, and solid waste, we’ve had few breakdowns or interruptions. (In fact, I can’t remember the last time we had a power outage.) The technology also generates insights that allow us to make more efficient use of our resources. The data from sensors and meters enables decisions to be based on facts, not just experience, or intuition. This has critical implications. For example, when the conflict broke out in Sudan, our northern supply route was cut off, preventing us from getting fuel. We had to make sure our reserves would suffice until new supplies came through an alternate route. Thanks to Smart Camp infrastructure, we knew where we were generating power, where it was being consumed, and could determine where to reduce consumption without impacting our work.

By making basic camp functions more reliable, not only are the peacekeepers properly sustained, but more human resources are also available for patrolling and reacting to crisis. Additionally, Smart Camp includes specific security functions that are important during a crisis, such as monitoring which people and vehicles are in or out of the camp.

UNGSC: UN Camps are the steppingstone from where UN entities deliver their mandates. With 484

1 Life Support Domain

- Field Remote Infrastructure Monitoring (Unite FRIM)
- Remote Control and Automation
- eFMS
- Fuel Flow and Tanks Level Monitoring
- Solar Panels & Energy management systems
- Water quality monitoring
- Water Reuse
- Waste management system
- Ground Water Exploration Services
- Soil contamination monitoring
- eAPP – Environmental App
- Camp Digital Twin
- Remote Expert Support
- Telemedicine support system

2 Security Domain

- Perimeter Surveillance
- Access Control
- PA Systems
- Day/Night Electro Optical Sensors
- Ground Surveillance Radar
- Counter - Rockets, Artillery & Mortars
- Virtual Operations Centre
- Serious Gaming
- Digital Twin
- UAS
- Counter UAS
- UAS Digital Forensics
- Live Video Analytics
- Hate Speech
- UN Maps
- C2 Integration
- Alarm Propagation

3 Asset Management Domain

- Assets Remote Tracking
- Automated Physical Verification
- Vehicle Tracking system
- 3D Printing of spare parts

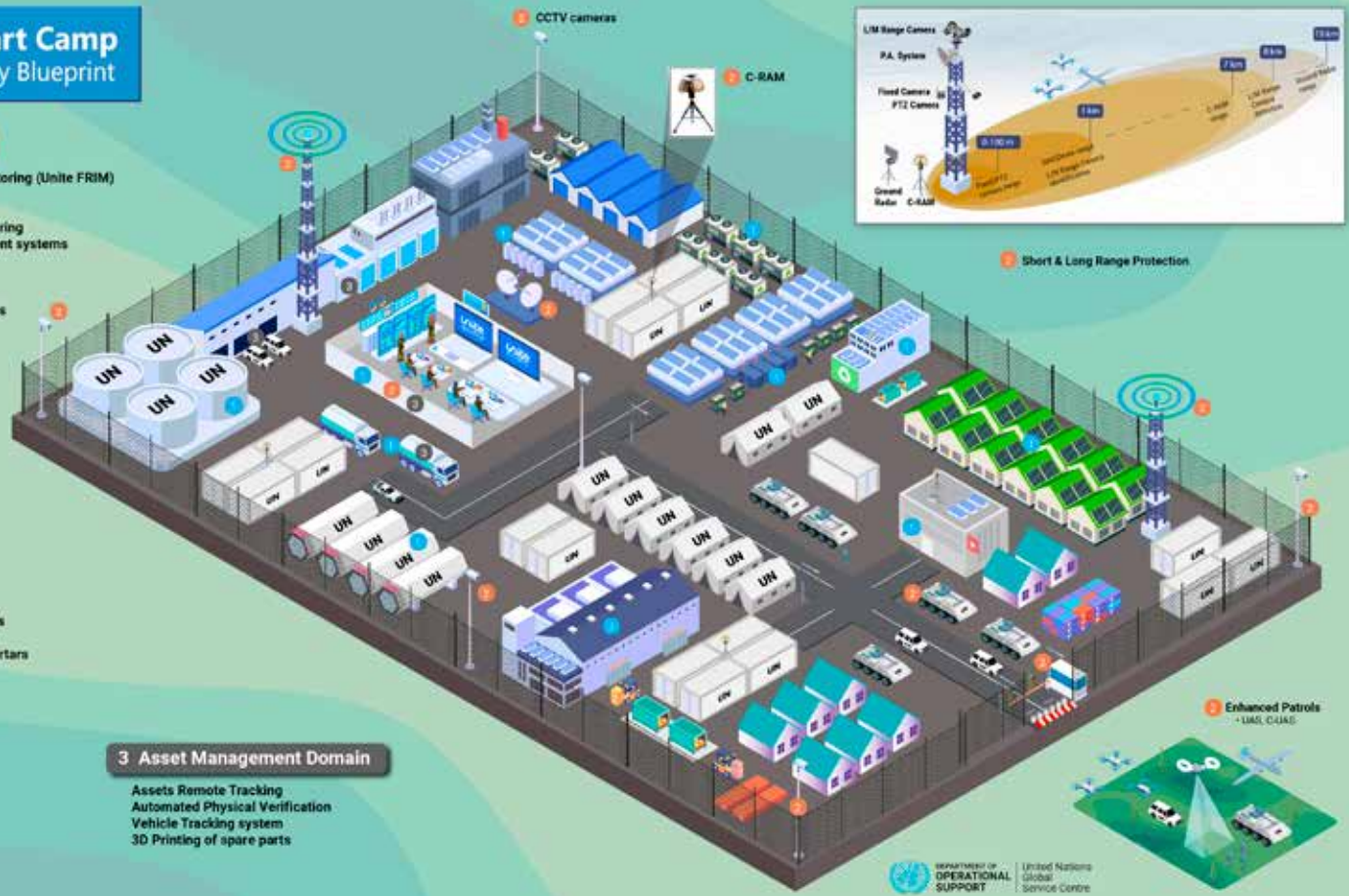


Image courtesy of UNGSC.

sites⁷ in field missions, supporting more than 80,000 military and civilian personnel, UN Camps materialize operational support to peacekeepers, humanitarian operators, and local communities. A “UN Smart Camp” adds value by incorporating cutting-edge technologies to increase service efficiency and availability, optimize costs, reduce in-mission carbon footprint, and improve safety and security, contributing to a positive legacy in the host nation.

As mentioned by UNISFA, the UN Smart Camp initiative is already yielding tangible benefits. Examples include:

- **Efficient Data Collection via Remote Monitoring Technologies:** Field technicians can now use cell phones to collect and input fuel data into the fuel management system, reducing training time from hours to minutes and minimizing entry errors.
- **Informed Decision to Cease Complementary Water Delivery:** Smart sensors in a borehole revealed that water production met the camp’s requirements. This data led to the decision to halt years of complementary water delivery via trucks.
- **Enhanced Visualization for Infrastructure Planning:** Improved visualization of 3D imagery (digital twins)

⁷ As of June 2023.

allowed engineers at Mission HQ to identify the improper positioning of generators near a borehole. It has also allowed them to update their containers’ inventory.

- **Rapid Alert System for Mortar Attacks:** In Somalia, the Counter Rockets, Artillery, and Mortars (C-RAM) system triggered and alerted UNSOS personnel within 9-20 seconds during 10 mortar attack incidents between 2021 and 2022. Training responses to such attacks in UNSOS can now be delivered using a virtual platform for simulations.

Furthermore, UN Smart Camp is helping to break silos, bringing together vendors, military, the UN Department for Safety and Security, and the Field Technology Section, and fostering greater information sharing and ultimately better solutions based on the available data. It also serves as a catalyst for capacity-building in local communities in a range of areas.

RoK: UN peacekeeping represents one of the most significant innovations in pursuit of international peace and security. Yet, as missions confront increasingly challenging environments, we must address these complexities and keep them fit for purpose. By harnessing new technologies, we can improve missions’ effectiveness. UN Smart Camp employs smart technologies

that protect peacekeepers while minimizing their environmental footprint. According to the UN Secretariat Climate Action Plan (UNSCAP), peace operations are the primary source of the UN's carbon emissions, with potentially lasting environmental effects on host nations and communities. Addressing this is critical to ensuring UN missions leave a positive legacy. In this connection, Korea is committed to creating a blueprint for safer, greener, and more efficient peacekeeping missions. Smart Camp is a key component of this effort, as it optimizes energy use, reduces waste, and improves the overall sustainability of the missions. With such visions in mind, we are currently preparing to pilot Smart Camp in the Hanbit Unit in the United Nations Mission in South Sudan (UNMISS), with plans to initiate the project in 2024 and complete it by the end of 2026.

Q: What challenges and opportunities do you see going forward?

RoK: As a project that integrates multiple technologies and systems, a challenge may be the continuity of financial support, especially with the closure of several peacekeeping missions. In 2023 Korea contributed 1 million dollars to Smart Camps and plans to conduct joint research with the UN next year to advance the model. In the future, we could consider ways to secure stable financial resources, for example, through multiyear trust funds. We are very satisfied with the collaboration with UNGSC and look forward to expanding our cooperation.

UNISFA: A challenge at this point is that the insights are starting to exceed our ability to exploit them. Eventually the automation of the exploitation of insights utilizing Artificial Intelligence could be important. Based on the positive feedback from contingents, we will continue to enhance security functions, combining threat detection with situational awareness systems in real-time, across operational activities. This could entail integrating our Intelligence Surveillance Reconnaissance (ISR) initiatives, including long-range and air-based ISR, with our smart CCTV system for greater protection of civilians, and building a control and command compound where all technologies terminate and insights are automatically generated.

In the supply chain domain, the automated resupply of essential equipment and fast-moving items will mean less downtime. Other complementary activities that we're working on with UNGSC include monitoring surface and ground water to detect early warning signs of the migration of herders and eventually deploy troops along migration corridors more effectively to avert conflict. Among our 11 camps, three are already "smart" (Dukkra, Highway, and Agok Smart Camp)

and three more are under construction and due to be completed by the end of 2024. In this sense, we foresee transitioning from a "Smart Camp" to a "Smart Mission."

UNGSC: Going forward, UN Smart Camp will continue to engage in three domains, namely, Life Support, Security, and Property & Asset Management, while incorporating a portfolio of enhancing technologies, such as additive printing, Extended Reality, and many others:

In the Life Support Domain, Unite FRIM will be expanded through field missions and UNGSC projects. This involves leveraging the Internet of Things (IoT) to enhance automation and remote control. It is also planned to include Contingent-owned Equipment (COE) in this process, working together with troop and police contingents, as agreed by Member States. The application of additive printing (3D printing) will be broadened, and efforts will persist in developing Extended Reality solutions. Furthermore, there will be a continuous focus on improving the quality of data and utilizing predictive and prescriptive data analytics.

The Security Domain will concentrate on harnessing technology for Integrated Base Defense (IBD). To realize this objective, UNGSC will collaborate with OICT to develop and gain approval for the Smart Camp Data Architecture. Simultaneously, UNGSC is partnering with MINUSMA to refurbish defense systems previously deployed in the Mission, refitting them for use in other missions.⁸ Other relevant initiatives include the Virtual Operations Center, Live Video Analytics, the provision of Unmanned Aerial Systems as a Service, and Automated Access Control.

The Property and Asset Management Domain will include the ongoing Smart Warehouse initiative within UNGSC, the automated physical verification project in UNISFA, and the High-Value Assets Tracking (HVAT) project in MINUSMA, which enables users to acquire the location and monitor the movement of high-value assets in near-real time. Anticipated benefits include enhanced supply chain management and security, particularly during the transit of assets.

Looking ahead, the UN Smart Camp model and infrastructure can also be applied to other field operations, promoting "smart" end-to-end service delivery, and translating policies and strategies on Data, Digital Transformation, and the Environment, into results on the ground.

To learn more, contact ungsc-smartcamp@un.org.

⁸ Including ground radars, long-range surveillance cameras, counter-drones, electromagnetic countermeasures, and counter-rocket, artillery, and mortar systems.

Technology for Positive Legacy in the Host Community: Groundwater Exploration and Rehabilitation of Wells

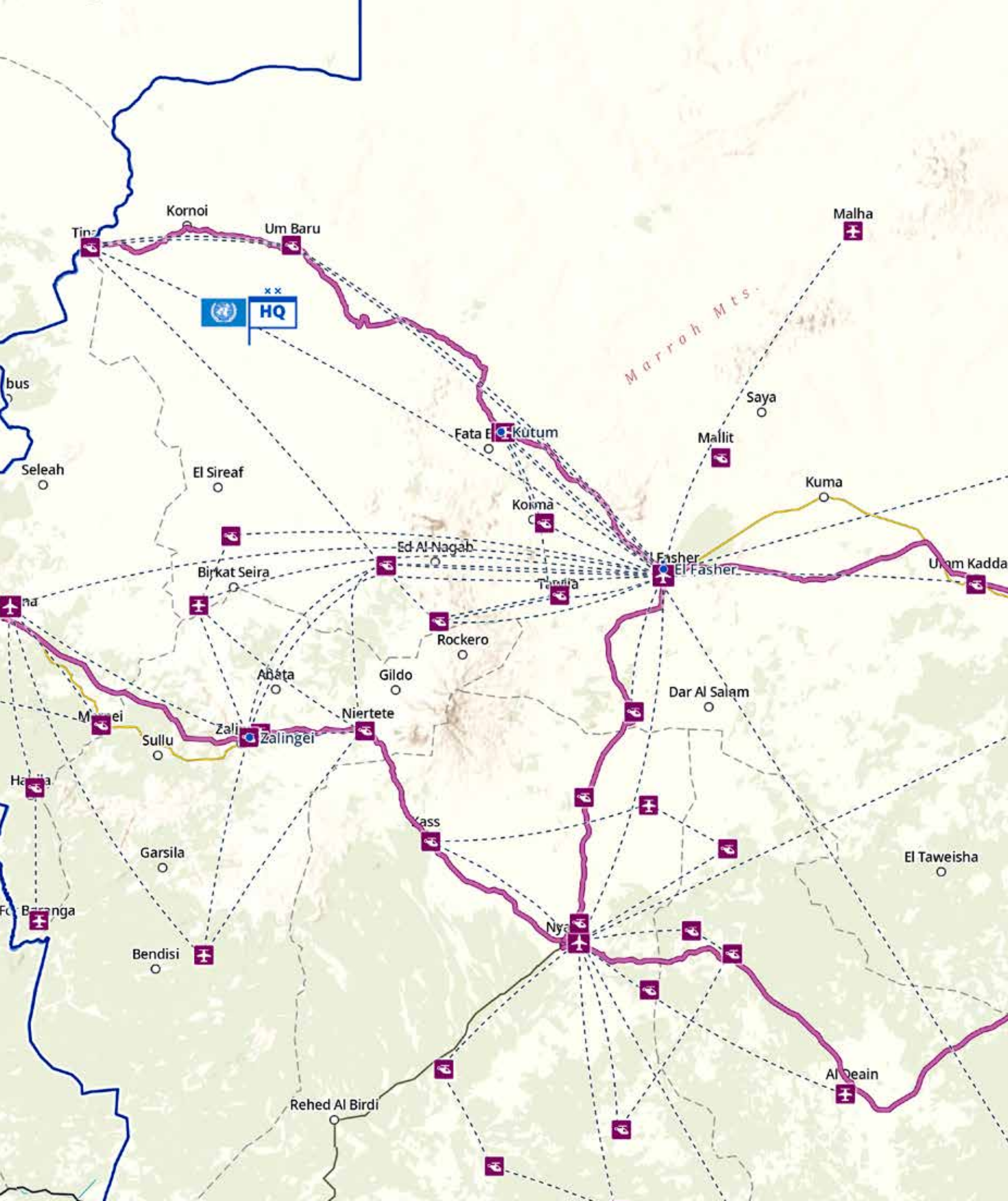


Rehabilitation phase of a community borehole in the Central Sector of the Abyei Administrative Area, UNISFA, featuring the use of an air compressor, provided by Vietnamese troops, to clean the borehole following an assessment. The assessment and rehabilitation is delivered by UNGSC as part of its groundwater analytics service. Photo courtesy of UNGSC.

Extended Reality for Enhanced Situational Awareness



UNGSC colleagues provide support to the United Nations Department for Safety and Security (UNDSS) in Libya utilizing Extended Reality technologies. Through UNGSC's Virtual Operations Centre (VOC), immersive and collaborative experiences enable users to simulate the reality on the ground and gain enhanced situational awareness, vital for peace operations and UN activities in challenging environments. Driven by the United Nations ICT Strategy and Roadmap, and the UN Secretary-General's Strategy on New Technologies, this initiative is paving the way for next-generation visualizations. Photo courtesy of UNGSC.



Beyond Navigation: Mapping the World, Supporting Peace, Serving Humanity

The concept of “positive legacy” often refers to environmental actions in countries where the UN operates. At UNGSC, positive legacy is a core commitment throughout the Centre’s initiatives, including beyond the environmental space. An exciting example is UNGSC’s flagship initiative, UN Maps, the fruit of a dynamic collaboration with field missions and the Office of Information and Communications Technology, that is supporting UN operations, fostering coherence across the UN system, and aligning with the goals of host countries.

For many, a map is purely a navigational tool. At the United Nations, however, maps provide critical support for life-saving needs including security, conflict early warning, humanitarian aid, and the protection of civilians. Maps can also carry diplomatic and political implications. In this connection, the UN’s mapping prerequisites are often not considered by private services.

“Private companies regularly update maps of densely populated areas,” explained Diego Gonzalez Ferreiro, UN Maps Programme Coordinator. “The remote areas where the UN operates are generally not reflected,” he continued. “Moreover, the UN cannot rely on a private company for administrative boundaries, accurate names, or information related to day-to-day UN operations. For such sensitive matters, we must use authoritative data from the UN.”

To fill that gap, UNGSC long produced maps in support of field and political missions. However, the approach was neither holistic, nor sustainable. Relying on consultants to produce a single product—the topographic map—based on high resolution satellite images, only, was expensive and yielded limited results. UNGSC therefore proposed an innovative model with the UN Maps initiative. In addition to the expertise of individual contractors, UN Maps engages the global crowdsourcing mapping community, leveraging OpenStreetMap (OSM), the equivalent of Wikipedia for maps, to contribute to and enhance OSM in areas where the UN operates.

This component, combined with the authoritative UN information, strategic outreach, and support provided by the Office of Information and Communications Technology (OICT) at UN Headquarters, enables UN Maps to deliver diverse outputs tailored to United Nations mandates and operations. These include satellite imagery base maps, operational maps with field mission data, applications, and maps customized to users’ needs. Gonzalez Ferreiro shared some examples: “Whether the maps are for uniformed personnel requiring information about an area they’re patrolling, or for logistics colleagues who need to know about the road they’ll use to move assets from one place to another, or for colleagues working at the political level, UN Maps can provide numerous tailored outputs on-demand.”

Alphonse Aka Attron, GIS Officer, Field Technology Services (FTS), at the United Nations Support Office in Somalia (UNSOS), an early sponsor and user of UN Maps, commented: “With support from FTS senior management, as well as mission leadership, UNSOS became one of the pioneer missions of the UN Maps project. UNSOS FTS provides geospatial analysis for an area covering 600,000 sq km to UNSOS, the United Nations Assistance Mission in Somalia (UNSOM), and the African Union Transition Mission in Somalia (ATMIS). This requires updated terrain data, the latest imagery of UNSOS camps and of ATMIS Forward Operating Bases (FOB), as well as topographic maps for

Left page: Example of a logistics map from a closed mission (UNAMID). Image courtesy of UN Maps.



"Mapathon" in Poland. Photo courtesy of OSM Poland.

ATMIS Joint Operations with Somalia Security Forces. UN Maps helps fulfill these needs. Working with UNGSC on UN Maps has been an excellent experience; the communication is strong, and we have been able to make recommendations to tailor the project to our needs. So long as funds are available, we will continue our collaboration to enable accurate data for Somalia throughout the mission's transition period."

While the primary users of UN Maps are field missions, UN Maps outputs serve stakeholders beyond the missions as well, contributing to a positive legacy in the host community. UN Maps Coordinator, Gonzalez Ferreiro, elaborated: "The location data remains available to the public and serves to empower local communities in state-building activities, digitizing roads, rivers, hydrologic sites, built-up areas, forests, and specific features that may not have been previously recorded." Additional uses include emergencies and crisis response. "UN Maps helped support the UN's operations during crises in Ukraine, Darfur, and in responding to natural disasters such as the earthquake in Türkiye and Syria, and the floods in Libya," noted Kais Zouabi, Chief of UNGSC's Client Solutions Delivery.

The opportunity to participate in mapping activities that address "real-world" problems and support the UN's goals has drawn volunteers from civil society worldwide, and led to multiple capacity-building opportunities, including some tailored to women and youth. Yves-Emmanuel Nikoyo-Emougou, a youth OSM mapper, environmental scientist, and UN Mapper of the Month from Cameroon, shared his experience: "Mapping, for me, is both personal and professional: I was first introduced to UN Maps following an OSM project for land cover in Cameroon. In Cameroon, while data is



"Mapathon" in Cameroon. Photo courtesy of OSM Cameroon.

available for the political and economic capitals, as well for areas targeted by grants, for most of the country, there is no field data available. Participating in mapping my country is personal, in that sense. Professionally, as I have a master's degree in environmental science, I had envisaged uses of OSM for the environment. Collaborating with UN Maps made me realize how OSM data can help respond to humanitarian issues as well. My experience motivated me to organize UN Maps webinars and trainings for young people in the local community. It also led to new opportunities, such as my current position, working as the Open-Street-Mapper in residence for Médecins Sans Frontières."

"UN Maps helped support the UN's operations during crises in Ukraine, Darfur, and in responding to natural disasters."

In addition to generating more accurate and comprehensive data, UN Maps is also fostering a truly global community of mappers dedicated to the UN's goals, who collaborate across borders, with international learning hubs, capacity-building opportunities at the local level, training courses for women, and even "mapathons"—fun, inclusive mapping events, some with up to 400 participants.

For OSM Poland board member and UN Maps volunteer and mapathon organizer, Włodzimierz Bartczak, the experience of UN Maps has proven gratifying for him and his students: "Giving students an assignment that has real-world implications is hugely motivating. I organize mapathons every two to three months, with about 25 people per group. Each mapathon has a 'zero to



“SheMaps.” Photo by Nathalie Sidibé, OSM Mali.

hero’ approach, in that no previous training is required. While it can be challenging for people in Poland to map Somalia, for example, people want to help. In some cases, our maps are the only ones indicating roads or water wells in remote areas.”

The success of this inclusive approach has paved the way for partnerships with universities internationally and sparked greater coordination and information sharing across the UN system.¹ Utilizing UN Maps as the repository for pooling data, approximately 40 UN bodies are now inputting thematic information according to their specialization. The resulting new generation of maps, combining data on population, migration, the environment, water, educational facilities, and multiple other layers, will enable comprehensive analyses that would otherwise be unattainable for any individual entity.

The system-wide use of UN Maps as a foundational product is being explored in the third UN Maps Global Conference, during which UNGSC and OICT aim to unite the entire UN mapping family, and enhance the

¹ “One UN Geospatial Situation Room.”

participation of UN Agencies, Funds, and Programmes. Going forward, UN Maps is envisioned as a resource for the broader public, notes Zouabi: “UN Maps can be like Google Maps, but with a focus on developing countries and areas where peacekeeping missions and humanitarian organizations operate, while complying with OICT cybersecurity rules and regulations.”

Another promising development is UN Maps Mobile, a mobile application for the field, which may be a game-changer for logistics and security, enabling access to data, navigation, search, and other features, both on and offline, to allow for use in areas where internet coverage is unavailable.

More than the sum of its parts, UN Maps is transforming a challenge into a catalyst for change within the United Nations and on the ground, literally!

UN Maps is made possible through funding provided by missions² and OICT. To learn more, or help support this initiative, contact maps@un.org.

² MINUSCA, MONUSCO, UNISFA, UNMHA, UNSOS, and formerly MINUSMA.

Q&A with Anandavel Kanaan, Geospatial Information Officer in the United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA)

What was the initial mapping need in the context of your Mission?

In 2014, during the inception phase of the mission, MINUSCA was relying on historical Topographic Line Maps from late 1979. There was a need for updated topographic maps for tactical planning. In addition, we utilized data from sources like OpenStreetMap, humanitarian agencies, and the World Bank. At the OpenGIS conference in Bucharest, UNGSC proposed the UN Maps initiative, and MINUSCA promptly joined. Between 2019 and 2024, MINUSCA acquired 130 map sheets.³ This initiative has had multiple benefits, including the creation of a base map layer for the Central African Republic, supporting situational awareness.⁴

Could you share examples of how UN Maps has been useful in MINUSCA?

- The forces operating in remote areas are actively seeking and using TLM maps for their patrol planning. Additionally, these maps are instrumental in supporting intelligence activities, as Force Headquarters (FHQ) imagery analysts are granted access to the “Maps on Demand” application. The capability of Maps on Demand to generate topographic maps for a custom area centered around a specific location, shared across two or three maps, has also proven to be very beneficial.

³ At 50 K TLM.

⁴ The Unite Aware Situational Awareness platform.

- The Joint Operations Centre (JOC), Joint Mission Analysis Centre (JMAC), and other mission stakeholders have relied heavily on the finely tuned settlement database search to identify the location of incidents reported from deep fields.
- Despite under-developed transportation networks in post-conflict Central African Republic, the current UNGSC approach, incorporating weighted means to assess road security for safe route identification, promises to be advantageous for mission users.
- Furthermore, the common base map achieved with the UN Maps initiative has enabled consistency, with the same look and feel across various standardized applications like SAGE, Unite Aware (UA) Maps, and UA Patrol, among others.

How would you describe the interaction with UNGSC and UN Maps?

Collaborating with UNGSC on UN Maps proved to be a smooth process. UN Maps coordinates the numerous consultants involved in the project, enabling MINUSCA to focus solely on the project’s deliverables, free from the administrative burdens of managing consultants and monitoring progress. The dashboard and project board provide timely and dynamic updates on the project’s advancement.



Rural road in the Central African Republic used by MINUSCA for patrols to enhance security and the protection of civilians.
Source: MINUSCA/PakEng-2



Service is Responding to Crisis

Faced with unpredictable, complex crises, from global pandemics to natural disaster and armed conflict, UNGSC is a trusted partner in rapid response. Building on its vast experience with field operations, it is increasingly called upon to mobilize the necessary supply chain and digital technology support, even in unprecedented circumstances.

In particular, the rise in demand for its services has focused on strategic deployment stocks (SDS)—with an increase of 289% for receipt, management, and distribution of cargo and 72.1 % for repair and maintenance of equipment—and ICT services, with an increase of 88.5%.¹ Leveraging these diverse capabilities, and working in collaboration with a wide range of stakeholders, UNGSC is playing a pivotal role.

¹ A/76/30 Budget for 01 July 2022 to 30 June 2023. Increase is in comparison to 2020/21 results-based budget performance targets.

Responding to Natural Disasters:

Following the devastating 2023 earthquake in **Türkiye** and **Syria**, UNGSC provided essential equipment such as armored vehicles, satellite phones, personal protective equipment, prefabricated modular structures, and solar water heating systems to UN entities on the ground, namely the World Health Organization (WHO), the International Organization for Migration (IOM) and the United Nations Population Fund (UNFPA). In addition, UNGSC supported the United Nations Operations and Crisis Centre (UNOCC), with the identification of hardware, equipment and services required for humanitarian operations, in coordination with the UN Office of Information and Communications Technology (OICT) and DOS. UNGSC also enabled the mapping of 20,000 buildings and roads in less than one week in support of UN and humanitarian actors, with over 450 remote and field-based volunteers identifying collapsed buildings using AI tools and sharing the latest open drone images.

Mapping activities were key following the 2023 earthquake in **Morocco**; working together with the Humanitarian OpenStreetMap Team (HOT) West and North Africa OpenDataHub and OpenStreetMap (OSM) Morocco, UNGSC mapped buildings in cities around Marrakech and trained health officers in Morocco to use OSM for everyday Geospatial Information Systems (GIS) operations and emergency response. Similarly,

in Derna, **Libya**, flooded by Storm Daniel, mapping activities in collaboration with HOT and the local OSM community helped trace the road network and missing buildings in the city and its surroundings.

Another area of contribution involves the use of drones. In the **Democratic Republic of the Congo**, following the 2021 Mount Nyiragongo volcano eruption, UNGSC's drone mapping services enabled the assessment of lava flow for the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO).

Responding in Times of Conflict:

In conflict situations, UNGSC can also be counted on to provide agile support. In **Ukraine**, this has entailed dispatching convoys from UNGSC Brindisi to the theatre of operations, to support the United Nations Office for the Coordination of Humanitarian Affairs (OCHA), the UN Department for Safety and Security (UNDSS), the World Food Programme (WFP), and the International Agency for Atomic Energy (IAEA), including for the IAEA Director General's visit to the Zaporizhzhia Nuclear Power Plant, and the UN Secretary-General's visit to Ukraine. Technological support included the mapping of roads on the borders between Ukraine and European countries, radio intercommunication support for IAEA convoys, the development of a Medical Facilities Map



UNGSC dispatches vehicles to Ukraine. UN Photo/Luca Nestola.



UNGSC, in coordination with the Office of Supply Chain Management, sourced and supplied critical humanitarian goods in record time for an Emergency Relief Canadian Air Force flight to Sudan. UN Photo/Luca Nestola.

Application for UN staff in Ukraine and its surroundings for the Division of Healthcare Management and Occupational Safety and Health (DHMOSH); as well as a geoportal hub, static and dynamic maps, geospatial intelligence analyses, satellite imagery services, maps on demand, and data-sharing to support UNOCC, in coordination with the GIS Section of OICT.

Amid conflict in **Sudan** in 2023, UNGSC sourced and supplied emergency supplies ranging from camping cots and water to trauma bags, body armor, ballistic helmets, loading an aircraft for a special flight supported by the Government of Canada. More recently, in support of UN operations in and around **Gaza** and within the region, the Centre's strategic deployment stocks (SDS) were leveraged to aid multiple UN entities with personal protective equipment, VHF radios, light vehicles with tracking systems, and other necessary items. Efforts are ongoing to dispatch protection items and medical consumables acquired during the COVID-19 pandemic to Gaza. Additionally, UNGSC helped guarantee uninterrupted communications with an increase in satellite communication capacity for the Office of the United Nations Special Coordinator for the Middle East Peace Process (UNSCO) prior to the closure of their Gaza office.

In **Ethiopia** and in **Afghanistan**, UNGSC's crisis analytics contributed to the work of UNOCC. In the case of the complex attack on the Hamid Karzai International Airport in Kabul, involving person-borne improvised explosive devices (PBIED) and small arms, an analysis of the blast zone with rapid satellite image-based intelligence analytics using remote sensing technologies, in coordination with the GIS Section of OICT, UNOCC, and the United Nations Assistance Mission in Afghanistan (UNAMA), provided key information on the evolving situation to the UN Security Council.

Responding to the Unexpected:

Regardless of the need, UNGSC stands ready to help. In **Lebanon**, following the Port of Beirut explosion, environmental experts provided technical advice to the United Nations Interim Force in Lebanon (UNIFIL) in conjunction with the United Nations Environment Programme (UNEP) and OCHA for appropriate waste management and minimization of potential hazards for safe clean-up operations, embedding support into wider joint efforts for the Disaster Waste Management Plan for the Port of Beirut.



COVID-19 medical evacuation services were made available to all UN offices worldwide. The Strategic Air Operations Centre (SAOC) at UNGSC coordinated air ambulance flights for over 300 such evacuations in support of 26 field entities. Images courtesy of SAOC.

Significantly, even amid major supply chain disruptions, as experienced during the **COVID-19** pandemic, UNGSC was able to mobilize \$13.4 million SDS medical and pharmaceutical material to 36 clients on five continents; roll out vaccines to approximately 150 global destinations; support over 300 COVID-related medical evacuations thanks to the Strategic Air Operations Centre (SAOC); and design and deliver a COVID Geoportal Hub with related mapping content, including COVID-19 status and dashboard cases in field missions; global geospatial-based applications and resources on the pandemic.

These examples demonstrate that effective action requires both commitment and collaboration. As noted by Giovanna Ceglie, Director, UNGSC, “In times of crisis, no matter how daunting the task, our staff can be counted on to step up to the challenge with expertise, energy, and empathy. Working together with partners across the UN system and with a range of stakeholders, we can find solutions and provide support where and when it’s needed most.”



Port of Beirut, following the 2020 explosion. UN Photo/Pascual Gorriz.

IV

Service is Learning from the Past

“Assisting mission start-ups, transitions, and closures has always been a key area of support provided by our teams. However, handling numerous transitions and closures at once is entirely new territory. The quality of support demonstrated thus far would not be possible without the vast expertise accumulated and nurtured over the years and the ability to learn from past activities. Another key driver of success is the flexibility of staff from across different teams to step in and support colleagues with the enormous volume of work needed to ensure all activities are conducted quickly and aligned with all relevant procedures. Kudos to colleagues across UNGSC and missions for their professionalism and exemplary drive.” - Herbert Pechek, Chief, UNGSC Supply Chain Service

Mission Closure, the Human Dimension: Reflections and Lessons Learned from UNAMID

A decade-long UN peacekeeping mission in Mali (MINUSMA) has ended, and other closures are on the horizon. To tackle the massive logistical challenges associated with the drawdown and liquidation of such large-scale missions, the Department of Operational support is summoning lessons from previous experiences. A fundamental reference is the African Union - United Nations Hybrid Operation in Darfur (UNAMID), recognized, at the time, as the largest UN peacekeeping mission ever to close.

Gianluca Avantaggiato, who provided support for the drawdown and liquidation of several missions over the past decade, including remote support for UNAMID on behalf of UNGSC, shared his insights:

“While every mission is unique, one common element is the human aspect. The environment becomes less safe, as contingents are repatriated. Fewer resources are available to carry out very demanding tasks. Furthermore, many people lose their position when a mission is closed, often after many years of service. Psychological sensitivity is therefore crucial. It’s important that all personnel that UNGSC deploys on the ground to support the liquidation, convey they are there to help carry out critical tasks, not to substitute anyone’s existing work. On the logistical side,” Avantaggiato noted, “a major challenge with liquidations had been the excess of UN assets.”

How did UNGSC respond?

Gianluca Avantaggiato: “Based on lessons from UNAMID and other liquidated missions, UNGSC and the Office of Supply Chain Management in Headquarters are now focusing on procurement optimization at an earlier stage. This approach, namely monitoring the use of material during the sustainment phase of the mission and retrieving UN properties for transfer to other operations, well ahead of drawdown, is yielding multiple benefits: We are ensuring adequate purchasing; reducing waste; achieving greater accountability; maximizing utility; and enhancing compliance with environmental and regulatory requirements.”

Another related advancement driven by UNAMID, Avantaggiato continued, was the structuring of the 3R (Return-Refurbish-Reuse) programme.¹ “At UNGSC, we deepened the cost-benefit analysis to determine which assets would be strategic to return to our Base in Brindisi, Italy, for refurbishment and reuse in other missions, versus which would be disposed of locally. Considerations included the life expectancy of material, residual value, capitalized value, as well as logistical problematics, and future demand.

Since material is purchased with Member State funds, we must always prioritize the needs of other peacekeeping missions, or entities within the UN system. Ultimately, we moved 103 strategic high value assets from Darfur that were necessary for the UN’s operations elsewhere and left behind camps in a functional state for the future use of the local community: Generators, wastewater treatment facilities, and office supplies remained, along with medical supplies and other vital installations.”

Unfortunately, as was widely reported at the time, armed intruders took over several camp sites. Avantaggiato elaborated on the human impact: “Sadly, in the site of El Fasher, due to a mass looting of infrastructure and property, the remaining UN personnel had to make an emergency exit. For staff on the ground who risked their life every day, it was profoundly frustrating and heartbreaking to witness material destined for the use of the local community, or other important purposes, gone in an instant.”

¹ See article on page 19.



UNAMID had the protection of civilians as its core mandate, and was also tasked with contributing to security for humanitarian assistance, among other areas. UN Photo/Albert González Farran.

“While every mission is unique, one common element is the human aspect.”

Despite these incidents, there were many accomplishments, Avantaggiato emphasized, with over 195 tons of chemical products in good condition donated to the local Urban Water Administration; massive soil remediation; and over 32,000 records reconciled remotely in the UMOJA inventory system alone, out of UNAMID’s total 47000 holdings.

“The experience with UNAMID’s drawdown and liquidation strengthened our capacity to manage the closure of missions, especially large ones such as

MINUSMA. That said,” Avantaggiato cautioned, “there is no ‘one-size-fits-all’ template. A key variable is the time available for planning and implementation. In the case of MINUSMA, only six months were allocated to complete the drawdown. Just this factor alone, not to mention all the other external challenges, increases the level of difficulty. Fortunately, our dedicated personnel are up to the task and motivated to make a positive difference through their work at all stages in the life cycle of a mission.”



UNAMID's drawdown coincided with the COVID-19 pandemic. UNAMID handed over Polymerase Chain Reaction (PCR) Machines to health authorities in North and Central Darfur to help in the early detection of COVID-19 cases and controlling further transmission across the communities in Darfur, including UNAMID personnel. The handover was part of UNAMID's drawdown process as it endeavoured to build the capacity of designated parties who would continue to serve the host community after UNAMID's full departure from Darfur. Source: UNAMID Photo of the Day 22 June 2021. Photo by Deepak Tiwari, UNAMID.



UNAMID workshop on the defense of women's human rights. UNAMID's Human Rights Section, in partnership with the Peace Centre and Development Institute at the University of Zalingei, Central Darfur, conducted a workshop on the occasion of the International Day for Women Human Rights Defenders, on 29 November, 2020. Photo by Amin Ismail, UNAMID.

UNAMID ACHIEVEMENTS: UNGSC's efforts, as part of DOS, provide the operational support for missions to fulfill their mandates. Some of UNAMID's achievements are listed here.

- Reduced number of armed clashes
- Improved access to previously denied areas
- Improved support to mediation between the Government of Sudan and armed movements
- Community policing
- Strengthened traditional community-based mechanisms in internally-displaced person (IDP) camps
- Protection through thousands of short, medium, and

- long-range patrols to remote, isolated and high-risk areas, as well as inside IDP camps
- Demobilization and reinsertion support for 11K former combatants from armed movements
- 150 community-based projects and community stabilization projects for at-risk youth
- 1000 completed projects from 2007-2020 including UN State Liaison Functions

Source: peacekeeping.un.org/en/mission/unamid



MINUSMA's Drawdown and Liquidation: Operational Insights

Condensing a complex drawdown into six months, carrying out arduous logistical maneuvers in an environment of violence and volatility, the abrupt termination of the United Nations Multidimensional Integrated Stabilization Mission in Mali (MINUSMA) made international headlines.

Recognized as “one of the most difficult environments known to peacekeeping,” with “the size of the country, the remote and land-locked areas where the UN was deployed, and insecure road networks posing significant challenges for support to MINUSMA’s operations,”¹ the closure of the mission was no less challenging. As described by the Under Secretary-General, Department of Operational Support (DOS) Atul Khare, “the accelerated drawdown of MINUSMA posed unprecedented difficulties.”²

Following the adoption of the UN Security Council resolution in June of 2023,³ terminating the decade-long mission and mandating the completion of its drawdown

by December of the same year, UNGSC, under the guidance of DOS and the Office of Supply Chain Management (OSCM), and in close cooperation with the Regional Service Centre Entebbe (RSCE), mobilized to provide on-site and remote support at an equally unprecedented pace. A delegation led by the USG Atul Khare, with Giovanna Ceglie, Director, UNGSC, Paulin Djomo, Director, RSCE, and Anton Antchev, Director of the Mission Liquidation Coordination Team and MINUSMA Director of Mission Support met with Malian officials on-site, and a UNGSC Supply Chain Service team of specialists for warehouse operations and property disposal was deployed on the ground to assist the mission.

Informed by lessons-learned from the mission closure in Darfur, Sudan (UNAMID), the process of diverting equipment destined for Mali to other missions began

¹ USG DOS Briefing to the Security Council, October 2016.

² USG DOS Statement to the Special Committee on Peacekeeping Operations (C34), 21 February 2024.

³ S/RES/2690 (2023).



DOS Under-Secretary-General Atul Khare, UNGSC Director Giovanna Ceglie, RSCE Director Paulin Djomo, and Director of the Mission Liquidation Coordination Team Anton Antchev, participate in a Conference in Mali regarding the drawdown and closure of MINUSMA. Photo courtesy of UNGSC. Previous page: Aerial view of the environs of Timbuktu. Photo by Harandane Dicko, MINUSMA.



MINUSMA soil remediation activities. Photo by Ricardo Alonso Torres Quispe.

immediately. High value assets held by the mission were evaluated for return, refurbishment, and reuse, with UNGSC's "3R Programme," and were tracked to enable transparency and accountability. Special attention was allocated to the responsible disposal of all waste, environmental clean-up, and the remediation of sites. UNGSC staff deployed on-site commented on the different facets of the process.

Ricardo Alonso Torres Quispe, Environmental Engineer, described the contingency actions from an environmental perspective: "Regardless of how short the timeframe, there are responsible environmental practices to be followed before the closure and handover of UN camps: At the mission level, systems must be put in place to ensure the completion of joint environmental assessments and effective environmental clean-up, including hazardous waste disposal, in line with the UN standards enshrined in the DOS Environment Strategy. We must strive to ensure the environment and the communities we serve are not exposed to any environmental risks, which could be detrimental to their health and livelihoods.

In the context of closure and liquidation, mission personnel are reduced. Those remaining on-site, must shoulder the bulk of the remaining environmental clean-up activities. UNGSC provides technical assistance, either on the ground or remotely, focusing on initiating or enhancing the mission's established mechanisms for the effective environmental clean-up of premises. This support may encompass dedicated technical guidance on how to conduct inventories, classify and dispose of hazardous materials, hands-on assistance for conducting such treatments, assistance to conduct soil remediation, the development of tailored SOPs or checklists, among many others, tailored to the mission's needs and reality.

In the case of MINUSMA, navigating a shifting political landscape and security constraints required operation in contingency scenarios. With instances of internal conflict encroaching upon UN camps and limited mobilization of contractors, goods, and personnel, the full spectrum of services that would typically be available became unattainable. UNGSC collaborated closely with the mission's environmental team and engineers to devise and implement contingency measures, with a particular focus on mitigating risks associated with hazardous waste to prevent immediate harm to the environment and local populations. Despite constant revisions to the mission's withdrawal plan until December 2023, the mission was able to execute plans on environmental clean-up, to the extent possible (i.e., three sites had to be forcibly abandoned due to approaching infighting), and UNGSC remains steadfast in its commitment to supporting colleagues in the field, to the best of our abilities."

"On the ground, needs evolve constantly, and you must adapt."

Michele Iaia, UNGSC Logistics Assistant, elaborated on other priorities of mission closure: "The Mission sought UNGSC's assistance with issues related to logistics, and property and asset management arising from the unexpected nature of the closure. Four UNGSC staff members were deployed to help clean up backlogs. Based on our experience, we could be proactive, analyze gaps, and suggest appropriate corrective measures, where needed. At the request of mission management, we also performed additional tasks, helping with intermission transfers, commercial sales for Bamako, Timbuktu, and Gao, the streamlining of warehouse activities, and training for property disposal.

On the ground, needs evolve constantly, and you must adapt, even if the changes required are not covered by the initial Terms of Reference. UNGSC staff isn't there to interfere or impose, we find a way to be unobtrusive and supportive, and are always willing to do whatever is required. Despite the difficulties, it is also rewarding to participate in these processes. I had the opportunity to travel to Kigali and Gao to assist with the gifting of items based on requests from government authorities. Items included generators, accommodations, office furniture and equipment, medical appliances, vehicles, and air conditioners, destined to serve schools and other local entities. Under normal circumstances, drawdown and liquidation are challenging processes; the rushed timeline, combined with the size and complexity of MINUSMA, required a very dynamic collaboration."

UNGSC's support continues throughout the liquidation process. In some instances, UNGSC staff are requested



MINUSMA assets arrive in UNGSC Brindisi. UN Photo/Luca Nestola.

to remain on-site, as with UNGSC Global Property Management Assistant, Pietro Antonio Suma, who spoke to us from Bamako, where he was supporting property disposal in a temporary duty capacity: “Everything is urgent. We work against the clock, with a reduced number of personnel. Experience and the ability to work in a stressful environment are critical, so staff members who have served in other mission liquidations are summoned to provide support and guide staff who are new to the process. My section’s responsibilities are to finalize the sale orders, continue commercial sales to external companies, complete donations to the government, clean the inventory in the warehouse, and transfer material to other missions. Given the size of MINUSMA, we will likely have 5000 items of serialized equipment available for transfer. Although final figures can only be confirmed at the end of the liquidation, overall, 17,300 assets and equipment with an acquisition

value of USD \$73M were identified for transfer to other UN operations and entities. Teamwork and information sharing across sections are vital. We hold daily and weekly meetings to resolve problems and coordinate among liquidation staff in the mission and Brindisi.”

“The drawdown of MINUSMA was a complex undertaking; its accomplishment within the short time allocated was made possible thanks to effective collaboration among all stakeholders within DOS including UNGSC, as its operational arm,” stated Anton Antchev, MINUSMA Director of Mission Support.

Although MINUSMA has ended, the UN’s commitment to work with Mali towards achieving its goals will continue. UNGSC pays tribute to all those who lost their life in service and expresses gratitude to all those who have dedicated themselves to supporting peace.

UNGSC Remote Environmental Monitoring and Support for Mission Liquidation:

UNGSC’s Remote Environmental Monitoring and Support Service provides remote geospatial analyses and web tools and solutions to help UN missions monitor their environmental footprint, assess their impact on the surrounding environments, and support remediation actions. The use of satellite images and geospatial technology to assess sites of interest enables long-term monitoring. This service has also been applied to support mission liquidations.

For UNAMID, a web map-based solution for remote environmental monitoring, Remote Environmental Assessment and Long-term Monitoring (REALM) was developed, further to the mission’s request to continue monitoring the effectiveness of remediation actions where contamination was present, even after the closure

of the mission. Through a fusion of satellite imagery and on-ground data, REALM brings data to life on a user-friendly web platform, with applications and dashboards. For MINUSMA, UNGSC expanded on support developed for UNAMID. Satellite images were provided to support environmental evaluation activities throughout the mission’s closure. The assessments and contamination analyses, produced using satellite images, captured the state of sites which had to be vacated by UN civilian personnel and uniformed peacekeepers.

This service is provided by the Analytics and Location Intelligence Unit, Client Solutions Delivery Section, of UNGSC’s Service for Geospatial Information and Telecommunication Technologies (SGITT). To learn more, visit geoportal.un.org or contact ungsc-aliu@un.org.

V

Service is Looking to the Future

UNGSC 's ability to provide comprehensive, tailored services worldwide stems from the Centre's multifaceted expertise, as well as from the favorable environments of its Host Countries Italy and Spain. Leveraging spacious, secure, strategically located facilities in Brindisi and Valencia, UNGSC's Bases are becoming hubs of innovation and support for a growing number of UN entities.

In the following pages, we'll learn about some of the forward-looking developments at UNGSC, including the Solution Factory where ideas are prototyped for the field, as well as campus enhancements and efficiencies, tailored services in conference management, and occupational safety and health for the broader UN system.

"To meet the rapidly evolving needs of our clients, UNGSC's enabling services are continuously improving, providing optimal conditions for innovation and collaboration within UNGSC, as well as for partners across the UN system including field missions, other UN Secretariat entities, Agencies, Funds, and Programmes, who rely on our facilities and support." Jangar Mc Gill Richards, Chief, UNGSC Central Service

The Solution Factory: Where Great Ideas Take Shape and are Tested for the Field

In the rapidly evolving landscape of peace operations, innovation is key to operational success. Tapping a breadth of expertise in supply chain and digital technology, the United Nations Global Service Centre (UNGSC) is uniquely positioned to provide innovative, comprehensive, and customized responses to clients' needs, whether by adapting products in the market to the requirements of the field, or by creating new ones.

To enhance this capability, the Centre has developed a collaborative space, the "Solution Factory." On the conceptual level, the Solution Factory serves as a virtual think tank where architects, engineers, and experts of different specializations work together to analyze clients' operational needs and propose tailored solutions. On the practical level, the Solution Factory benefits from UNGSC's facilities, including a dedicated 10,000 square meter landmark building, as well as manufacturing capacities.

Leveraging carpentry and metalwork skills, 3D printing, modular products that house all necessary IT infrastructure, among other resources, the Solution

Factory can both test existing products for endurance to the rigors of the field, as well as design and build prototypes in-house, to bring even the most complex concepts to life.

An example of a new solution to be prototyped is the next generation smart containerized photovoltaic (PV) plant to power field missions with renewable energy. It builds on an earlier iteration which was found to be too heavy and difficult to install. The improved version is foldable and pre-wired in a single 20' sea container, is designed to unfold on rails, enabling fast deployment, can be easily installed by a team of two, with no machinery or prerequisite skills required, and can be remotely

The Seaplane Base Hangar, constructed in 1930 by the Savigliano Workshop in Turin, was an innovative landmark building of its time, and now serves UNGSC's hub for innovation, the "Solution Factory." Photo by Hans Grebmayer, 1938. ©Heinz Herrmann, 2012.





Inside the Solution Factory. UN Photo/Luca Nestola.

monitored and controlled. This environmentally friendly solution uses chemical-free salt batteries, facilitating safe disposal. Once assembled at the Solution Factory, field missions will be able to view the product first-hand prior to ordering. Developed in partnership with the World Food Programme's United Nations Humanitarian Response Depot (UNHRD), which is co-located at UNGSC's Brindisi Base, the containerized PV plant it is also a model for collaboration.

“A new solution to be prototyped is the next generation smart containerized photovoltaic (PV) plant.”

Other solutions being explored at the Solution Factory include energy storage systems; a decentralized, flexible grid, to share energy surplus; soil stabilization materials; and 3D printed accommodations, intended to replace prefabs during the start-up phase of missions, with cost-effective, secure, environmentally responsible structures that can be created on-site using local materials.

In addition to products, new projects and service offerings are also being fomented, such as “Drilling as a Service,” to source groundwater in areas experiencing water scarcity with an itinerant drill rig. This proposal aims to utilize a refurbished drill rig, recuperated from the United Nations - African Union Hybrid Operation in Darfur (UNAMID) in a deteriorated state, restored to its acquisition value at UNGSC, and rendered fit for redeployment to other field missions.

At the Solution Factory, great ideas are put to the test and, if they pass, can be implemented in-house, at a reduced cost compared to commercial providers, advancing efficiency, creativity, and environmental responsibility at UNGSC and with clients and partners worldwide.

To learn more, contact ungsc-solutionfactory@un.org.

Solution Factory today. UN Photo/Luca Nestola.





Smart containerized photovoltaic (PV) plant, first version. UN Photo/Luca Nestola.



Refurbished drill rig, recuperated from the United Nations-African Union Hybrid Operation in Darfur (UNAMID) and restored to its acquisition value at UNGSC. UN Photo/Luca Nestola.

Groundwater exploration: The Drilling as a Service function is part of UNGSC's overall groundwater exploration and management for field missions, supplying missions' water requirements while simultaneously protecting critical water resources and limiting adverse environmental impacts. Using a multidisciplinary technology, capable of discovering water in the sub-service, target locations for drilling are identified. Before drilling a new borehole, environmental appraisals are conducted, and alternative water supplies evaluated. Wherever possible, wells are rehabilitated, and measures implemented to foster water conservation and reduced consumption, as well as support access to fresh water in host communities. For example, in UNISFA, the Groundwater Team has assessed and rehabilitated 18 UNISFA-operated wells and eight community wells. (See page 31). *To learn more contact ungsc-aliu@un.org.*



Photos left to right: Inside view of a Modular Command Centre (MCC) at MINUSMA, photo courtesy of MINUSMA; outside view of MCC at MINUSCA, photo courtesy of MINUSCA; MCC at the UNGSC Base prior to deployment, UN photo/Luca Nestola; Overhead view of M-Products at MONUSCO, photo courtesy of MONUSCO.

Modular Command Centre (MCC): A Modular Command Centre can enable 100 users to connect and access all ICT functions, as if located in a fully functional duty station. Produced at UNGSC, Modular Products or “M-Products” are a suite of container-based solutions that enable the rapid implementation of IT and Communication services in field operations. An agile response to crisis situations in challenging environments where ICT infrastructure is not readily available, the deployment of M-Products within newly established or expanded missions helps to immediately support coordination, information sharing, security, supply chain management, and decision-making. Designed to sustain harsh conditions, they embrace Internet of Things (IoT) technologies, enabling monitoring, support, and data-driven energy management, through the Unite Field Remote Infrastructure Monitoring (Unite FRIM) platform. With over 150 units already deployed, they are part of the “M-Programme,” a joint flagship programme of the UN Department of Operational Support (DOS) and the UN Office of Information and Communications Technology (OICT), developed through the collaboration between UNGSC and UN peacekeeping and special political missions.

To learn more, contact mproductsupport@un.org.



3D Printing at UNGSC. UN Photo/Luca Nestola.

UNGSC’s 3D Printing as a Service (3DPaaS): A small non-mechanical spare part can salvage a high-value asset. 3DPaaS is an environmentally friendly, fast, and affordable process, enabling vehicles or machinery requiring a replacement part to remain operational. From custom designs to existing models available through the online catalogue, field missions can print the parts they need locally, or at UNGSC, enhancing self-sufficiency in the most remote locations, and advancing digital sustainability, with zero waste and filament from recycled plastic.

A Blueprint for Sustainability

Sustainability: This overarching United Nations objective applies not only to Member States, as per the UN Sustainable Development Goals (SDGs), but also to the UN Secretariat itself. At UNGSC, the challenge of achieving sustainable operations, especially amid rising costs and budgetary constraints, is being transformed into an opportunity: While the Centre is marking its 30th anniversary, and boasts cutting-edge technology in many areas, it is also seeking to continuously improve its facilities to meet the growing demand for UNGSC’s services and achieve environmental goals.

Although cost-cutting and facility enhancements may sound incompatible, UNGSC is proving that these priorities can, in fact, be complementary. In line with the SDGs and the European Green Deal—which strives to make Europe the first “climate-neutral” continent—UNGSC’s host countries, Italy and Spain, have made important advances in the implementation of renewable energy. UNGSC has been fortunate to benefit from their enabling environment and privileged geographic positions, achieving 100% use of renewable energy across its Bases in both Brindisi and Valencia. The Centre

is now seeking to increase its energy efficiency and independence, supporting financial and environmental objectives, as well as resilience.

These gains are passed on to numerous co-located partner organizations, which benefit from the affordability of being housed at UNGSC. By further investing in its facilities, UNGSC can accommodate even more organizations and increase its capacity for conferences and trainings, all of which represent an important return on investment.

PV Panels at UNGSC in Valencia. UN Photo/Luca Nestola.



PV Panels at UNGSC in Brindisi. UN Photo/Luca Nestola.



UNGSC in Brindisi occupies a total surface area of 368,209 sqm with 65 buildings.

UNGSC in Valencia (UNICTF) occupies a total surface area of 82,506 sqm with 12 buildings.

Team Leader of the Campus Support Technical Team, Marco Delli Santi gave us a glimpse into what has been achieved and plans for the future.

How do you reconcile base enhancements with cost reduction?

Marco Delli Santi: Within our fixed budget, 20% is allocated to improvements. We are utilizing those funds to implement projects that increase energy efficiency and independence and optimize the use of our Bases, ultimately reducing costs and allowing us to host more organizations on our premises.

What steps have been taken regarding energy?

MDS: The variable with the most impact on our budget is electricity, representing 50% of our fixed costs. The rising prices of electricity have strained our budget, propelling a more economic use of our resources. To that end, we've adopted a two-pronged approach, increasing our efficiency, and bolstering our independent production of renewable energy.

In Brindisi, we have 65 buildings on the Base, the majority of which were inherited from the Italian Air Force (ITAF) and range from 40 to 90 years of age. As part of our refurbishment efforts, we are installing LED lighting, insulated floors, building envelopes, and "smart" technologies for automation and monitoring, rendering our buildings more efficient, and minimizing the consumption of electricity.

Both UNGSC Bases in Brindisi and Valencia already source 100% renewable energy from commercial entities. To increase our energy independence and realize cost savings, we have installed photovoltaic systems (solar panels) and are exploring the use of batteries or wind turbines, to augment the share of renewable energy that we produce internally.

The combination of solar panels, LED conversions, and building sensors and controls, is resulting in a decrease of electricity consumption from external providers—

approximately 8% between 2022 and 2023. We are also able to pass on our savings to co-located partners.

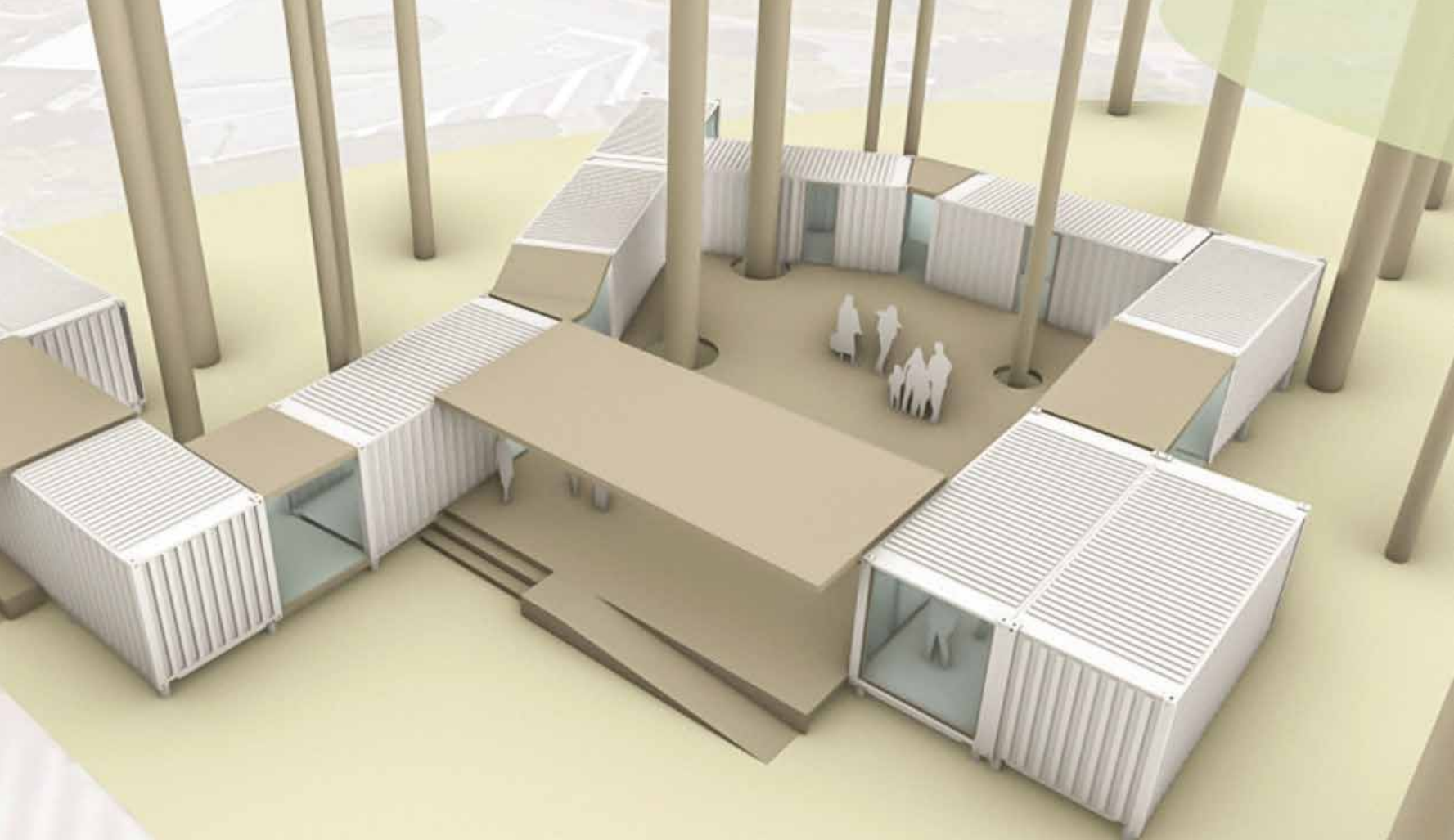
Can you describe the planned enhancements to UNGSC's Bases?

MDS: Thanks to the generous support of the host countries of Italy and Spain, both UNGSC Bases are being enhanced.

- In Brindisi, the upgraded Base will have an expanded entrance facility to better accommodate the thousands of visitors who attend conferences and trainings. All materials will be environmentally friendly, and furniture will be made from reutilized containers.
- In terms of transportation, we will install additional electric charging stations, and a central parking lot will be available for personnel arriving to the Base, reducing the presence of cars across the premises. Scooters and bicycles will replace cars as the main vehicles used within the Base. Walking paths will be enhanced, and all facilities will benefit from increased accessibility for people with disabilities.
- Plans for expanded conference facilities accommodating up to 400 people are in place, to respond to the needs of our clientele. Rooms will have flexible configurations to serve different functions on demand.



UN Photo/Luca Nestola.



Rendering of new Visitors' entrance. Image courtesy of UNGSC.

- In Valencia, new facilities are under construction to accommodate co-located organizations such as UNICEF and the International Organization for Migration (IOM). Electric charging stations are already available, and photovoltaic systems have been installed. Efforts are underway to continue improving public transportation options for reaching the Base.

Jangar Mc Gill Richards, Chief of UNGSC's Central Service, which oversees matters relating to the UNGSC Campus, added to Delli Santi's comments. "In addition to environmental, financial, and safety benefits," she noted, "these enhancements and efficiencies support healthy working conditions for UN personnel and contribute to the well-being of host communities, advancing a holistic approach to sustainability."

Data Centre Efficiency

UNGSC's state-of-the-art twin technology centre in Brindisi and Valencia—providing core hosting, global connectivity, monitoring services, and secure high-speed network access to over 225 UN offices worldwide—is also at the forefront of best practices in sustainability.

It utilizes solar power and water-cooling technology. Moreover, by continuously monitoring and optimizing energy usage, the UNGSC twin technology centre is outperforming the European Union average for Power

Usage Effectiveness (PUE)¹ and holds the highest certifications in both energy and operational efficiency.²

¹ PUE is a key metric for data centre efficiency, quantifying the relationship between a data centre's total power consumption and the power dedicated to IT equipment.

² CEEDA® (Certified Energy Efficient Datacenter Award), the European Code of Conduct for Data Centers, and the Uptime Tier III Certification, ISO 20000:2018, ISO 270001, and ISO 14001:2015



The **Green Island** was designed to simulate a 30-person camp in the field. It features UNGSC's crosscutting capabilities, for example, renewable energy installations, prefabricated structures, and communications modules that are part of the strategic deployment stocks for rapid deployment, as well as sensors for real-time data collection. Designed by UNGSC engineers and built by our mission support team, the Green Island provides a real-life testing, integration, and training ground. Photos by Alejandro Vicuña Leyton.



Tailored for a Changing World: UNGSC Delivers Personalized Event Services in the Hybrid Era

“The COVID-19 pandemic heavily affected global events, pointing to the need for a deep reflection on the future of the industry.”¹ – Organization for Economic Co-operation and Development (OECD)

UNGSC has long served the UN Secretariat and field missions’ conference and training needs; however, in the post COVID-19 pandemic era, it is increasingly a destination of choice for the broader UN system. Paola Pinto, Coordinator at UNGSC’s Conference and Learning Centre, explained how the pandemic impacted conference and event management at UNGSC and sparked new trends: “COVID-19 had a severe impact on our operations; however, it also stimulated the development of new service offerings, namely online and hybrid modalities. Although COVID restrictions have been removed, we’ve retained these flexible arrangements to serve clients’ individual needs. Today’s trends indicate an increase in the number of participants per event from 40 pre-pandemic to approximately 70 people, pointing to an optimization of resources for preparation and delivery. Another tendency is enhanced collaboration among Agencies, Funds, Programmes, and the UN Secretariat. For example, conferences such as the UN Clinics Meeting, the Property Management Assembly, the UN Data Conference, or the Occupational Safety and Health Annual Training and Certification Course, engage participants from across the UN System and field missions globally.”

Pinto elaborated on why UNGSC’s conference services are in demand: “Our facilities are versatile,” she noted, “with multiple indoor conference and workshop spaces, as well as extensive open-air grounds that are excellent for scenario-based exercises. Moreover, we offer personalized support, comprehensive event management, and coordination, enabling our clients to focus exclusively on the content of their activities.”

¹ “COVID-19 and the Future of Global Events,” April, 2021 - OECD

Muhammad Sohail Ali, Chief, Critical Incident Stress Management Section (CISMS), at the UN Department of Safety and Security (DSS) described the support provided for the Annual Meeting of UN Secretariat Affiliated Counsellors and Strategic Partners from the client perspective, noting “because of your assistance, more than 50 participants from around the world arrived safely in Brindisi and participated in a very successful global meeting. You and your team members anticipated and attended to every detail, committing yourselves to ensure that the logistics and individual needs of participants were met.”

“We offer comprehensive event management, enabling our clients to focus exclusively on the content of their activities.”

UNGSC’s support includes extensive preliminary contact with organizers regarding all logistics; support for participants throughout the registration process; booking of accommodation, transportation, and reservations for conference social events; and facilitation of medical support if needed, liaising with the relevant UNGSC teams. “Throughout events,” Pinto added, “we maintain a constant presence for operational and technical needs. Whether hosting large events like the Staff Management Committee Meeting and the Organizational Resilience Management System Course, or expert panels that come to write reports, we always aim to go beyond the basic service offering. For example, in the case of interview panels for rostering, we provide a refresher session on competency-based interviews (CBI) for panel members to discuss best practices and align before the exercise begins. In the decade of



UNGSC hosts the Technical Roundtable of the Ministry of Foreign Affairs of Italy, UN Photo/Luca Nestola.

evolution that I have personally witnessed, our services have improved through the adoption of new equipment, a new participant management platform, and better communications products. The feedback we receive is excellent from both recurrent clients and new ones, such as the United Nations Population Fund (UNFPA) and the Office for the Coordination of Humanitarian Affairs (OCHA).”

UNFPA Humanitarian Learning Coordinator, Luam Mehary, spoke to the experience of facilitators and participants at their Humanitarian Leadership Training workshop: “The success of the workshop would not have been possible without UNGSC’s Conference and Learning Centre’s contribution to all the actions needed. In addition to the facilitators, the participants also wanted to share their gratitude for your continued guidance and encouragement. Once again, thank you so much for being the backbone to this massive operation.”

Dong Nguyen, Training Officer with the Policy, Evaluation and Training Division, UN Department of Peace Operations (DPET/DPO) shared similar feedback

from a DPO event: “We are genuinely grateful for your professionalism, expertise, and commitment to excellence. The level of expertise and timely responsiveness displayed by your Team have exceeded our expectations. We look forward to holding future training courses at UNGSC.”

The sentiments expressed by Ali, Mehary, and Nguyen reflect overall ratings for UNGSC’s conference and event services, which measure an impressive 96%. Building on client satisfaction, UNGSC aims to broaden its portfolio. Pinto concluded: “In the period of 2022/23 alone, we hosted 2729 people from entities including the Department of Peace Operations, the Department of Political and Peacebuilding Affairs, Regional Commissions, Agencies, Funds, and Programmes, in 127 events, ranging in size from 12 to 112 participants, at our Brindisi Base. Going forward, we anticipate hosting new events at the European level and globally and plan to enhance our facilities with additional large-capacity conference rooms and new technologies to respond to our clients’ evolving needs.”



UNGSC hybrid conference room with visiting Representatives of the European Union. UN Photo/Luca Nestola.

Setting the Bar Higher for Staff Safety and Well-Being: Occupational Safety and Health at UNGSC

“A safe and healthy working environment is not only a fundamental principle and right at work but also an essential requirement for fostering sustainable and inclusive economic growth, full and productive employment, and decent work for all.”¹ – International Labour Organization (ILO)

According to the International Labour Organization, “occupational safety and health (OSH) is the science of the anticipation, recognition, evaluation and control of hazards arising in or from the workplace that could impair the health and well-being of workers, taking into account the possible impact on the surrounding communities and the general environment.”² At UNGSC, the Occupational Safety and Health (OSH) Unit, under the guidance of the UN’s Division of Healthcare Management and Occupational Safety and Health (DHMOSH), plays a pivotal role in supporting the well-being of personnel both at UNGSC’s Bases, including during health crises, such as the COVID-19 pandemic, as well as across field missions worldwide.

Chief of the Occupational Safety and Health Unit at UNGSC, Leczy N. Tah-Monunde, explained: “The work of UNGSC’s OSH Unit is of a local and global nature. From our offices at UNGSC, we look after the safety and health of UNGSC staff, as well as provide OSH capacity building, operational data management, technical support services and OSH emergency responses for UN OSH personnel and Focal Points in field missions and other UN organizations. Our support services provide in-depth knowledge of the subject, ensuring that interventions are highly practical and tailored to the needs on the ground.”

Paty Hashem from the United Nations Interim Force in Lebanon (UNIFIL), a participant in the Field Occupational Safety and Health (FOSH) Training and Certification course at the UNGSC Base in Brindisi, concurred: “This

course was very informative, many methods were used, and I especially appreciated the opportunity to apply the theory in real-life scenarios.”

“The work of UNGSC’s OSH Unit is of a local and global nature.”

OSH Unit’s capacity-building services leverage UNGSC’s facilities and infrastructure to accurately simulate real life scenarios, such as facility risk assessments, falls from height, chemical spills, or other serious incidents. Muhammad Zia Khan from the United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO) shared his experience: “Through practical exercises at the logistics base, we address investigation, fact-finding, and warehouse management. It was fantastic learning and one of the best training facilities I’ve ever been to.”

Through these simulations, participants acquire the tools and mental preparedness to effectively address OSH hazards and risks and investigate incidents that can occur. Josyanne Alvarenga Da Costa, OSH Focal Point in Angola for the United Nations Development Programme (UNDP), emphasized: “As a UN country team, this initiative is very important for us. This training will help me to prevent physical and psychosocial hazards.” “The course provides us with the tools to put mitigation in place to reduce accidents and incidents,” added Scopas Tokorawa from the United Nations Mission in South Sudan (UNMISS).

In addition to benefiting from physical space for hands-on learning, the OSH Unit’s presence at UNGSC also enables collaboration with other facets of the

¹ “A call for safer and healthier work environments,” ILO, 2023.

² “Fundamental Principles of Occupational Health and Safety,” ILO, 2008.



OSH training participants conduct a safety risk assessment. UN Photo/Carlo Bevilacqua.

organization including in the area of digital technology. This interface is yielding promising developments for improved OSH management and reporting, with an online portal directly accessible to all OSH personnel through SharePoint and Power BI, and the automation of alerts for OSH tasks. These resources are enhancing timely insights and responses, the identification of trends, and data-driven decisions on how to further support field missions.

“The integration of cutting-edge technological tools in OSH is also on the horizon,” noted Tah-Monunde. “The potential synergy of software including Artificial Intelligence, and drones in high-risk environments such as workshops, warehouses, and HAZMAT areas, could be leveraged to enhance the identification and management of workplace hazards and risks. We are, in addition, exploring with our SGITT Service the potential integration of UN Maps to enable OSH Focal Points to tap geospatial data for effective management of workplace incidents.”

The successful endeavors of the OSH Unit have been recognized; in December 2023, UNGSC became the first UN organization to achieve the leading international certification for OSH management systems, ISO 45001, setting the bar higher for workplace safety and health culture and performance. “Prioritizing workplace safety and health is not just a duty,” affirmed Tah-Monunde. “It is the cornerstone of a thriving workforce and a future-fit organization. Therefore, regardless of where personnel work—office, workshop, warehouse, construction site or at home—we strive to provide the optimal conditions for them to exercise their duties.”

Did you know?

- Annually nearly three million people die of work-related accidents and diseases and about 395 million workers worldwide sustain non-fatal work injuries.
Source: International Labour Organization (ILO)
- Improved office design can prevent musculoskeletal disorder, a pervasive health issue affecting 494 million people globally as of 2020 and projected to rise to 1,06 billion by 2050.
Source: healthdata.org
- OSH professionals hold credentials spanning the fields of occupational safety and health management, engineering, medical/health sciences, architecture, and IT.



Five-Day OSH Course, incident simulation. UN Photo/Carlo Bevilacqua.

Advancing Gender Equality through Technical Work

By Monserrat Sepúlveda

At UNGSC, we are committed to advancing gender equality, a fundamental human right essential to achieving peaceful and just societies. In line with this commitment, as a leading provider of supply chain and digital technology services to UN peace operations, we aim to support our clients in their efforts towards gender equality, and the implementation of UN Resolutions aimed at advancing women's full and equal participation in conflict resolution, peacebuilding, and peacekeeping.¹

Furthermore, we are also taking concrete steps to incorporate a gender perspective into our technical work, leveraging the insights, experiences, and capabilities of women, as part of our dedication to continuous improvement.

A recent proposal to pilot a Flexible Energy Grid demonstrates the importance of integrating a gender perspective in technical work. UNGSC staff assessed the project risks from a gender lens and identified gender-specific unmet needs, such as ensuring that all premises and roads connected to the project are well-lit to prevent instances of gender-based violence, implementing measures that promote equal employment and training opportunities for women, and providing adequate personal protective equipment (PPE) for female staff. The proposal will also include a plan to develop recommendations from a gender perspective for stakeholders and potential clients interested in building on this research and trials. By integrating a gender perspective to minimize risks and enhance opportunities, we seek not only to maximize the chances technical work will succeed, but also to contribute to our partners' efforts to advance gender equality in missions and host communities.

The Standing Police Capacity observed, "ensuring gender-responsive due diligence mechanisms, in supply chains, is key. This means that buyers and suppliers design and deliver contracts in a way that reduces

gender inequalities and that women are involved at all levels, to ensure their requirements are adequately integrated."

Carlotta Rizzo, UNGSC's Gender Focal Point, explains that "as part of the United Nations, UNGSC has a responsibility to uphold the organization's mandate of promoting peace, security, and development; and gender equality is an intrinsic part of this mandate." Rizzo's experience has shown her that "the inclusion of diverse perspectives, particularly those of women, becomes a catalyst for innovation" and "integrating a gender perspective allows us to address the specific challenges faced by men and women in peacekeeping missions." By advancing gender equality, UNGSC is better equipped to carry out more effective and meaningful work.

"In general, peacekeeping field missions have been designed with a male soldier in mind."

One of our clients, the United Nations Interim Force in Lebanon (UNIFIL), has been a pioneer in its efforts towards gender equality. In 2022, UNIFIL became the first UN peacekeeping mission to obtain funding from the Elsie Initiative for Women in Peace Operations to build gender-sensitive housing and invest in better working conditions for women peacekeepers from the Ghanaian Battalion. Afaf Omer, Chief of the Gender Advisory

¹ Security Council Resolutions 1325, 1820, 1888, 1889, 1960, 2106, 2122, 2242, 2467 and 2493.



Ghanaian Batalion. Photo courtesy of UNIFIL Public Information Office.

Unit at UNIFIL, clarifies that “in general, peacekeeping field missions have been designed with a male soldier in mind so we seek to make our accommodations more gender-sensitive to respond to the needs of military women.” The new accommodations were launched in 2022, enabling UNIFIL to double the number of women among deployed uniformed personnel.

To align our work with initiatives like the one at UNIFIL, this year 16 UNGSC staff involved in project management and design completed training on integrating a gender lens into technical and logistical work. Through this experience, participants strengthened their capacity to assess technical and logistical work from a gender perspective and to formulate actionable strategies addressing gender inequalities. The participants also learned how to better connect their work to Sustainable Development Goal 5 on Gender Equality, linking UNGSC’s support with overarching UN objectives.

Sofia Rossi, UNGSC Associate Environmental Expert, commented that the training equipped her with practical strategies to integrate gender considerations into technical projects: “I feel empowered to advocate for gender mainstreaming even in areas where its

application may not have seemed feasible before. With the gender integration tool provided, we can now assess our projects from a gender lens, which will enhance their value and effectiveness.”

By training our teams at UNGSC to incorporate a gender lens in their work, we also strengthen our capacity to support clients and partners in their efforts to advance gender equality. Wendy Blechynden, who works closely with our clients as a Senior Administrative Assistant at UNGSC, notes that “as we learn to incorporate, record and share this knowledge, our partners can jump on the learning curve with us.”

Technical work is often viewed as disconnected from gender, but our experience is revealing new opportunities to use innovation and technology as a means for advancing gender equality, a vital component for peace and sustainable development. As noted by Afaf Omer, “when we include a gender perspective, we see things that we miss when we are looking in a gender-blind way; addressing the needs of women often takes us to a better place.”

See the May 2024 Department of Peace Operations Policy on Gender Responsive UN Peacekeeping Operations to learn more.

Montserrat Sepúlveda, Gender and Inclusion Specialist United Nations Volunteer for UNICEF in Somalia, previously worked at UNGSC as a Gender Equality and Women’s Empowerment intern, and as a Gender Specialist leading a government development programme in Chile. She holds a MSc in Gender and International Relations.



UNGSC staff at the United Nations Information Communication Technology Facility, in Valencia, (UNICTF), along with representatives of co-located partner organizations including UNICEF, UNICC, IOM, UNOPS, and OICT gathered to mark International Women's Day. Photo courtesy of UNGSC.



UNGSC staff in Brindisi participate in UN Women's "No Excuse" campaign to end gender-based violence. Image courtesy of UNGSC.

VI

Service is Working Together

In the previous chapters, we've seen some highlights of UNGSC's work across its Services and heard from a variety of staff members in the Centre, as well as clients and partners. To conclude, we dive deeper into what makes UNGSC unique, namely the spirit of community, from local stakeholders who continue to shape UNGSC in Brindisi and Valencia to co-located partner organizations who are helping to foster the vision of "One United Nations."

Brindisi & UNGSC:

A Destiny Intertwined

By Maria D'Aprile

To chart the future of UNGSC, one must journey through the Centre's roots in the city of Brindisi, as their stories are intertwined. It's as if this city, with its eastward oriented harbor, strategic from both military and commercial points of view, had been waiting since Roman times, through the Middle Ages and two World Wars, to fulfill its vocation as a cultural crossway, a gateway to the East, and laboratory for a new culture based on peace.

The development processes of the UNGSC Base, initially known as the United Nations Logistics Base (UNLB), and that of Brindisi (or "Windisi" for foreign colleagues, owing to the constant winds), have shaped one another. In 1994, when this Base was established at the behest of the UN General Assembly, few people in Brindisi spoke English. Locals mistook UN personnel for "the Americans," (maybe out of nostalgia for the NATO USAF Base between Brindisi and San Vito, which had recently been shut down). UN international staff felt that restaurants opened way too late and complained that there was no peanut butter to be had in local supermarkets. Meanwhile the savoury traditional "rustico" coupled with a cappuccino was a craze among foreign colleagues, while appalling local waiters.

In addition, local journalists constantly confused UNLB with the World Food Programme (WFP), which had also established a presence on the Base, and it was seemingly impossible to get them to differentiate between us—UNLB, a logistics support base for peacekeeping operations, and WFP, a mechanism for intervention in humanitarian crises. To the media, we were simply the UN, and that was that. In hindsight, they were right; they had been able to foresee a future that we could not envision, blinded by the strict confines of our mandates, i.e. that our unique strength derived from our co-location in Brindisi and ability to respond immediately and effectively to any emergency, anywhere in the world, as "One UN."

Un destino intrecciato

Per tracciare il futuro di UNGSC, si dovrebbe fare un viaggio nelle radici dell'organizzazione che affondano nella storia della città di Brindisi poichè le storie di chi si relaziona si appartengono e s'intrecciano.

É come se questa città, con il suo porto verso l'Oriente, strategico dal punto di vista militare e commerciale, dal periodo romano e medievale, fino alle due guerre mondiali, stesse aspettando da sempre la più grande organizzazione internazionale del mondo, per realizzare la sua vocazione di crocevia culturale, porta d'Oriente e laboratorio per una nuova cultura fondata sulla pace.

E così la storia della Base, UNLB prima di UNGSC, e di Brindisi, *Windisi* per i colleghi stranieri, per via del vento che soffia perenne sulla città, si sono intrecciate.

Quando nel '94 questa Base fu istituita per volere dell'Assemblea Generale, non erano in tanti a Brindisi a conoscere l'inglese e ci confondevano con gli americani per quella nostalgia della Base USAF della NATO che proprio in quegli anni dopo un trentennio, aveva chiuso i cancelli fra Brindisi e San Vito, i ristoranti aprivano molto tardi la sera, nei supermercati mancava il burro di arachidi e la combinazione rustico cappuccino per cui i colleghi stranieri andavano pazzi, faceva inorridire i camerieri.

Peraltro i giornalisti locali continuavano a confondere UNLB con WFP e non c'era modo di fare intendere la differenza tra noi che intervenivamo dopo i conflitti con tutto il supporto logistico al servizio del Peacekeeping e il WFP che si occupava di emergenze umanitarie. Per loro eravamo le Nazioni Unite e basta e bisogna ammettere che non solo avevano ragione ma avevano letto nel futuro quello che noi da dentro i rigidi confini dei nostri mandati, non riuscivamo a intravedere, ossia che la nostra unicità era data proprio dalla compresenza, in un unico luogo, Brindisi, di queste due anime, pronte a garantire sempre una risposta immediata ed efficace ad



Monumento al Marinaio d'Italia, Brindisi. UN Photo/Luca Nestola.

Thirty years later, UNLB has evolved into the much broader United Nations Global Service Centre, and the Base itself is set to expand into a truly integrated centre supporting UN field operations. There's no mission in Africa, Europe, Latin America, or the Middle East that has not come to know UNGSC and identify us with the water in the wells we help detect and build, the personal protective equipment or armored vehicles we provide, the electricity brought by our generators, the 24/7 telecommunications systems and teams of experts we rapidly deploy to the field. Supporting these global efforts in areas where local populations and UN personnel face constant threats, Brindisi, seemingly peripheral, has become a central actor, assuming great responsibilities, albeit with often marginal recognition.

As a UN staff member and native of Brindisi, wearing "two hats," I have witnessed both how the UN has transformed the prospects of Brindisi, and how the culture and people of Brindisi have impacted the UN. Certainly, in a southern Italian city with an unemployment rate of 32%, a yearly economic activity of about five million Euro cannot be ignored, especially when added to all the indirect expenditures (e.g., rental fees, utilities costs, daily expenses, travels etc. sustained by nearly a thousand families connected to UNGSC). However, it would be reductive, to speak of a merely economic relationship between the Base and the City.

ogni possibile emergenza in qualsiasi parte del mondo, sotto l'ombrello del "One UN."

A 30 anni di distanza e con l'evoluzione da UNLB a UNGSC, la Base è ora un vero centro integrato di supporto alle operazioni delle Nazioni Unite sul campo, e pronta ad un ulteriore ampliamento. Non c'è missione in Africa, Medio Oriente o America Latina che non ci abbia conosciuto in questi trenta anni identificandoci con l'acqua dei pozzi che aiutiamo a intercettare e costruire, i dispositivi di protezione personale e i mezzi blindati che forniamo, i sistemi di telecomunicazione operativi 24/7 e le squadre di specialisti pronti a intervenire sul campo in maniera rapida.

E poiché questo tipo di supporto spesso fa la differenza fra la vita e la morte per le popolazioni e il personale ONU esposti a costanti minacce, Brindisi, da periferia di mondo è stata spesso definita *Safe Haven*, ed ha assunto una centralità sulla mappa mondiale di cui si ha molta responsabilità ma poca consapevolezza.

Io, liaison fra la Base e il territorio, e con i miei "2 cappelli" di funzionaria ONU e cittadina di Brindisi, ho avuto modo di assistere a come la cultura ONU e quella di questo territorio e della sua gente si siano amalgamate.

Certamente in una città del Meridione d'Italia con un tasso di disoccupazione del 32 per cento, un indotto annuo di circa 5 milioni di Euro non è da trascurare,

If we add social impact through blood drives, donations of equipment to educational institutions, and charitable initiatives, as well as cultural impact, with the establishment of the European School, international training programmes in various high schools, regular school visits hosted by the Base, the Learning by Experience¹ programme, internships and, the creation of the University of Salento's Master's Degree in International Cooperation and Peacekeeping, then the picture begins to take shape.

Indeed, Brindisi adapted to welcome the international community, with many members of the local population learning to speak English, and the authorities extending special courtesies to facilitate UNGSC's needs.

This was particularly notable with the Italian Air Force staff, who had to support and protect the UN community day and night. Any reticence about the transformation of their premises from a military airport to a UN Base soon transformed into appreciation for the new cosmopolitan culture that the UN brought. They hosted us with pride in their hearts and with a genuine spirit of hospitality.

One can say that this hospitality is part of Brindisi's DNA. In times of prosperity and distress, Brindisi has always opened its arms to help newly arrived people gain a footing. Whether as part of the Appian Way during Roman times, or as part of the Corridor VIII today, connecting Italy with Balkan countries, Brindisi is both a safe harbor and a bridge connecting cultures throughout time.

¹ An immersive programme for students aged 16-17 to acquire knowledge about UNGSC, its work processes, as well as communications and relational dynamics.

soprattutto quando sommato a tutte le voci di spesa indirette (affitti, consumi vivi, spese quotidiane, viaggi ecc. di più o meno un migliaio di famiglie collegate alla Base). Sarebbe tuttavia limitante se parlassimo esclusivamente di una relazione fra la Base e la città di tipo economico.

Se aggiungiamo un indotto di tipo sociale (si pensi ad esempio alle donazioni di sangue, di attrezzature varie a scuole ed istituti, a tutte le iniziative messe in campo negli anni, di solidarietà, beneficenza, integrazione) e infine ad un indotto di tipo culturale (la nascita della Scuola Europea per esempio ma anche tutti i programmi di formazione internazionale intraprese dai vari istituti scolastici, le visite scolastiche alla Base, i programmi di alternanza Scuola Lavoro, gli stage e non da ultimo la nascita del Corso di Laurea Magistrale in Scienza della Cooperazione internazionale e Peacekeeping), già il quadro comincia a farsi più completo.

C'è da dire che Brindisi ha accolto a braccia aperte la comunità internazionale e non parlo solamente del numero sempre maggiore di persone interessate a imparare la lingua veicolare, l'inglese. Mi riferisco all'impegno delle istituzioni locali e della cittadinanza di fare propri i bisogni e le esigenze di una comunità internazionale.

Una menzione speciale merita a tal proposito il personale dell'Aeronautica Militare italiana, a cui è stato dato il compito di supportare e proteggere notte e giorno le Nazioni Unite e il suo personale. La reticenza iniziale nel vedere il loro aeroporto militare trasformarsi in una base ONU ha gradualmente lasciato il posto ad un apprezzamento per la nuova cultura cosmopolita che



Peacekeepers and students mark the International Day of UN Peacekeepers at UNGSC Brindisi. UN Photo/Luca Nestola.



View of Brindisi's iconic Roman columns with the Peace ("PACE") sign. Photo by Alejandro Vicuña Leyton.

“Brindisi, its inhabitants, and UNGSC have a shared vocation to build a culture of peace.”

Quoting the Dean of the University of Salento, Professor Fabio Pollice, “Any narration becomes real when a community identifies with it.” By establishing a “permanent” United Nations Base in Brindisi, a destiny was sealed; the city, its inhabitants, and UNGSC have a shared vocation to build a new culture of peace, which can serve as a beacon for the world.

Maria D'Aprile, Head of UNGSC's Liaison Office since 2005, has served the United Nations since 1995.

“Brindisi, i suoi abitanti e l'UNGSC hanno in comune la vocazione di costruire una nuova cultura di pace.”

le Nazioni Unite portavano con sè. Ci hanno accolto con orgoglio ed un genuino spirito di ospitalità.

L'ospitalità è nel DNA di questa città. In tempi di prosperità o di crisi, Brindisi ha sempre aperto le sue braccia allo straniero. Dalla via Appia in epoca romana al Corridoio VIII odierno, collegando l'Italia ai Balcani, Brindisi è sempre stata un porto sicuro e un ponte di collegamento culturale.

Citando il Magnifico Rettore dell'Università del Salento, Professor Fabio Pollice, “Qualsiasi narrazione diventa una realtà quando viene assunta come valore identitario dalla comunità territoriale” e allora con l'istituzione di una base permanente delle Nazioni Unite a Brindisi si è blindato un destino; pertanto questa città, i suoi abitanti e l'UNGSC hanno in comune la vocazione di costruire una nuova cultura di pace che da UNGSC e da Brindisi possa diffondersi nel mondo intero.

Maria D'Aprile, Capo Ufficio Liaison dal 2005, in servizio presso le Nazioni Unite dal 1995.

Building Community in Valencia around the Values of the United Nations

Home to UNGSC’s Twin Technology Centre and to a growing number of co-located partner organizations, the United Nations Information and Communication Facility (UNICTF) in Valencia is also becoming a hub for community outreach and engagement around the values of the United Nations and the Sustainable Development Goals.

UNICTF Head of Premises and Chief of UNGSC’s Service for Geospatial, Information and Telecommunications Technologies (SGITT), Michel Bergeron, noted, “UNGSC’s evolution from a Logistics Base to a Global Service Centre with a Twin Technology Centre in Brindisi and Valencia marked an important step in the overall digital transformation of the United Nations, underscoring that digital technology is intertwined with all operational needs. Moreover, our work is a catalyst for engaging the local community, especially the younger generation in applying technology to advance peace, sustainable development, and humanitarian work.”

A notable example was the Humanitarian Fair and Robotics competition marking United Nations Day at Valencia’s iconic City of Arts and Sciences. Coordinated by UNGSC, the event brought together senior officials including the President of the Generalitat of Valencia, co-located partner organizations, such as UNICEF, and the International Organization for Migration, as well as a wide array of international and local non-governmental organizations, and over 50 high schools from the broader Valencian community.

Importantly, outreach efforts such as the UN Day event, are not isolated occurrences; partnerships with academia, civil society, industry, and other key stakeholders are fostered continuously. Practical outcomes such as a conflict early-warning system developed with the participation of the Barcelona-based ESADE school showcase the potential of these endeavors. Head of liaison for UNICTF, Lino Puertas Arias, added: “The local population is very supportive of the UN and proud to know that Quart de Poblet, in the outskirts of the city of Valencia, hosts a UN base.

UNGSC’s Twin Technology Centre is also a wonderful platform for engaging stakeholders, especially in academia. For instance, many students from the Polytechnic University who graduate in IT disciplines have been able to apply their knowledge here. We also regularly host Model UN events and Junior Ambassadors networks enabling young people to learn about the UN’s work firsthand.”

UNGSC’s presence in Valencia is propelling new collaborations. Bergeron concluded, “as UNICTF expands both its facilities and its network, thanks to the generous support of the Government of Spain, a vibrant community is being developed around the UN’s goals. We are grateful to the Spanish Ministry of Foreign Affairs and Ministry of Defense, the Generalitat of Valencia, and the City Hall of Quart de Poblet for their hospitality and partnership.

With UNGSC’s 30th anniversary coinciding with Valencia’s designation as European Green Capital for 2024, we can expect even more dynamic initiatives going forward.”





Left to Right: Robotics competition organized by UNGSC to mark UN Day; Ceremony at Valencia's City of Arts and Sciences to mark the International Day of UN Peacekeepers; Youth Participants in the UN "Peace begins with me" Campaign; Humanitarian Fair to mark United Nations Day, attended by the President of the Generalitat of Valencia and the Representative of the World Tourism Organization; Model UN event at UNICTF; Visit of NGO Representatives to UNICTF. Photos courtesy of UNGSC.

Co-location and Collaboration at UNGSC: Perspectives from Partner Organizations in Brindisi and Valencia

“In August 2009 the Standing Police Capacity was relocated from New York to the UNGSC Base in Brindisi, southern Italy—the first of the Standing Capacities to do so. The skyscrapers became the beautiful olive trees we find in Puglia, the bad coffee we had in NY became delicious and drinkable, and we all put on extra weight as well, because the quality of the food here is remarkable. UNGSC knows the Standing Police Capacity throughout all these years; the Base in Brindisi grew together with us. UNGSC and the SPC is a collaboration of great teamwork, when one shines in the field, the other is shining too. We have enjoyed this close partnership for the past 15 years and we all feel privileged to have the opportunity to be based here in Brindisi, a hidden gem in Puglia which many of us refer to as ‘our home.’” Ann-Marie Orler, Chief, Standing Police Capacity

Cutting costs, achieving greater coherence, these objectives are shared across the United Nations system. One effective way of pursuing them is through co-location, as evidenced by UNGSC, which has shared premises since its inception. In recent years, building on the support of the Host Countries Italy and Spain, UNGSC is experiencing increased interest in its facilities in both Brindisi and Valencia. To learn more, we invited long-time co-located organizations in Brindisi, such as the Standing Police Capacity (SPC), the Justice and Corrections Standing Capacity (JCSC), and United Nations Humanitarian Response Depot (UNHRD), as well as more recently arrived organizations in Valencia, UNICEF and the International Organization for Migration (IOM), to share their perspectives.

Carsten Weber, Team Leader/Chief of JCSC, Department of Peace Operations (DPO), noted: “For me, this was and continues to be a positive experience and most fruitful cooperation. Puglia is a wonderful place to live, although the team is hardly here due to our extensive deployments to UN field operations. Work-wise, this arrangement works! It is a great example of integration within the Secretariat, between DOS and DPO. Like JCSC and other DPO Standing Capacities, large parts of

UNGSC also provide surge capacity to field operations during their critical life cycles. Therefore, it is natural and logical to benefit from the same support infrastructure provided by UNGSC, for instance regarding travel arrangements. We face the same situation with respect to the shrinking of peacekeeping on the one hand, and an increase of conflicts and instability on the other. How to position ourselves to optimize the support we provide, in such a context, glues us together even more.”

“The projected benefits have expanded in terms of availability of extensive premises and facilities for trainings.”

UNHRD Brindisi Hub Manager and Deputy Network Coordinator Antonio Avella also shared his views: “UNHRD has been co-located with UNGSC since both their predecessors were based in Pisa. At that time, the humanitarian depot was managed by the UN’s Department of Humanitarian Affairs. Following its reform and transformation into the Office for the Coordination of Humanitarian Affairs (OCHA), the Inter-Agency Standing Committee (IASC) suggested that the World Food Programme (WFP) take over the



Secretary-General António Guterres visits the Base in Brindisi. UN Photo/Luca Nestola.

management of the humanitarian depot. Upon this handover, WFP managed its relocation to Brindisi where UNHRD became operational in June 2000.”

As a humanitarian platform, UNHRD’s needs were similar to those of UNGSC. Avella elaborated on the projected benefits and their realization: “Support from the host country, in terms of free-of-charge facilities, which also allow for offering storage at no cost to partners, and running costs, as well as the strategic location in the Mediterranean, proximity to the Balkans, North Africa and Middle East, and access to airport, seaport and road infrastructure were the key determining factors. Over the years, the projected benefits have expanded in terms of availability of extensive premises and facilities for trainings and scenario-based simulation exercises, and strategic collaboration with the local community, civilian, and military entities.

Based on this experience, WFP replicated the successful ‘Brindisi model’ in other strategic locations worldwide. In 2006, following the 2004 Tsunami and 2005 Kashmir earthquake, WFP initiated the UNHRD Network with hubs in Ghana, Malaysia, Panama, and the UAE. Locations were selected with similar criteria to those used for Brindisi, such as proximity to disaster-prone areas, easy access to transport services, and support from host governments.”

Co-location facilitates collaboration. For example, UNGSC provides connectivity service to UNHRD Brindisi’s warehouse within the military airport (118A).

UNGSC also entered into a Technical Agreement with the World Food Programme (WFP) for the use of UNHRD’s services, exemplifying the strategic alignment of resources and expertise, and effectively contributing to optimizing UNGSC’s operations and responsiveness. Moreover, both organizations are engaged in ongoing research and development efforts, funded by the Italian government, to design a deployable Photovoltaic Containerized Energy System, in a joint project between the UNHRD Lab and UNGSC’s Solution Factory.¹

In Valencia, UNGSC’s Base, the United Nations Information Communication Technology Facility (UNICTF), serves as a twin technology centre to Brindisi. With the support of the host country of Spain, the Base is expanding to accommodate other UN organizations, such as UNICEF, which relocated its entire ICT Division operation from NY, as well as the International Organization for Migration (IOM), in addition to the United Nations International Computing Centre (UNICC) and the United Nations Office for Project Services (UNOPS).

Geoffrey Okao, Deputy Director at UNICEF for Strategy Resource Management and Governance, Information Communication Technology Division, and Maider Dominguez, Human Resources Associate, described the process, challenges, and benefits of relocating operations from New York to Valencia.

¹ See pages 51-52



UNGSC Brindisi standard map with satellite imagery. Image courtesy of UN Maps.



UNGSC Base in Valencia, standard map with satellite imagery. Image courtesy of UN Maps.

How did UNICEF come to choose the premises of UNGSC in Valencia as a base for its IT operations?

Geoffrey Okao: It was almost by chance in 2018 while serving as UNICEF’s Chief of Platforms and Service Delivery running UNICEF’s infrastructure, operations, and IT services from New York. I came to the UNGSC Base in Valencia as an evaluator for the Emergency Telecommunications Training and was struck by the facilities. I sought to learn more and discovered a world-class data centre and technology services at a much more reasonable cost than New York. The real kicker was that UNICEF data and information would be protected by UN Immunities and Privileges. I proposed to the Chief Information Officer that we migrate our infrastructure from NY to Valencia... the rest is history.

How many UNICEF staff and other personnel are currently based there?

G.O.: We have about 150 personnel, including IT technicians/engineers, administration and HR supporting ICTD, communications professionals from our Communications and Advocacy Division, as well as

our procurement department, which relocated from NY to be close to its biggest procurement customer, ICTD.

Could you describe any challenges of relocation and how they were dealt with?

G.O.: It was a challenging process with three main components: people, technology, and administration. The people component was the most complex. The options for those whose posts were moved to Valencia was to move or leave the Organization. Among those who left, some were seasoned engineers who could easily find other jobs in the US; others were individuals who were on the verge of getting their Green Card or had family-related considerations that prevented them from leaving the US. This created gaps that we had to address.

On the technological side, we had to move two data centres supporting 192 countries, and 26000 staff in 600 locations without unplanned down time. The execution required great effort, and some initial investment to ensure we had the cabling we required, but ultimately, we finished everything on time.

In terms of administration, there were complexities to

help all relocated staff obtain the necessary documents, establish bank accounts, and bring their families. Our main challenge was that UNICEF didn't have an office in Spain and, at the time, didn't have a Host Country Agreement with the Spanish Government. This complicated things. To make matters worse, it was in the middle of the COVID pandemic which slowed down all government services. Fortunately, UNGSC's leadership and liaison team went out of their way to support us and facilitate communication with the Ministry of Foreign Affairs and exert their influence to fast-track action where possible.

Could you describe the services that are provided by UNGSC?

G.O.: UNGSC hosts UNICEF at the premises, providing office space, conference rooms with UNGSC equipment, other facilities, protocol, and security services on the administrative side. On the technical side they provide physical data centre hosting and connectivity for the data centre here in Valencia. In Brindisi, they provide data centre hosting, connectivity and active, close "hands-on keyboard" support as needed. UNGSC also monitors critical network equipment in both Valencia and Brindisi.

What were the projected benefits of being based at UNGSC premises in Valencia and have they been realized?

G.O.: A differentiating factor at UNGSC is the flexibility offered to the client. Here, we have the option to choose which services we want to avail of and how much. That's not the case in many places that employ a "cookie cutter" approach, which doesn't allow for tailoring services to an agency's specific needs. Another benefit here is the ease of contracting providers; we utilize UNGSC's referrals of service providers or sometimes buy directly from UNGSC. Field user experience has improved because of lower latency to Valencia from about 90% of UNICEF offices.

The cost element was the main driver of our relocation and in this sense, we have already benefited. Service costs have reduced, as well as salary adjustments. At the time we moved, Valencia had post adjustment at between 20% and 24%, compared to 82%, in New York. While at the individual level, the salary reduction was traumatic, many staff are finding that they have more money in their pockets, given the difference in cost of living.

Maidor Dominguez, HR Associate in ICTD, Valencia, and the first local staff to join the Valencia team, elaborated on the HR transition and experience at the individual level.

What challenges did you face and what tools did you employ to support the transition process?

Maidor Dominguez: We were a small team of three people involved in the transition of existing staff, the recruitment of new staff, and the welcoming / onboarding process. In addition to personnel relocating from other UNICEF offices, we also recruited people from external organizations, who needed to understand how the UN and UNICEF work.

We designed an onboarding package to help people start on the right foot. Then, to bring people together with very different backgrounds and help everyone feel at home, we began hosting a monthly breakfast and weekly group calls on Microsoft Teams "Together in Valencia." These in-person and virtual gatherings allow us to share information about the Base, the city, whatever is trending that week. The chat is always open and serves as a resource for our community. Whether inquiring about finding an English-speaking doctor, or renting a house, this space allows colleagues to share their experiences and recommendations, complementing the information we provide in the country guide.

Could you describe two or three features of the Base that you particularly enjoy?

M.D.: What I like most is the big space we have, the gardens, green areas, outdoor tables to enjoy the Valencian weather almost year-round. Parking is easy. And new facilities are planned specifically for UNICEF.



The UNICEF booth at the Humanitarian Fair organized by UNGSC with partner organizations to mark UN Day. Photo courtesy of UNGSC.

Q: Could you describe your interactions with the personnel of UNGSC and other entities co-located on the premises?

M.D.: We've been collaborating with UNGSC and other co-located organizations on diverse events, from participating in the Humanitarian Fair organized to mark UN Day at Valencia's City of Arts and Sciences, to sharing a booth at the job fair of Valencia's Polytechnic University, to jointly organizing holiday activities for families at the Base. Personally, I work closely with UNGSC's Liaison team in Valencia for protocol and accreditation matters.... The collaboration is wonderful!



Co-located partner organizations IOM, UNICC, UNICEF, and UNGSC share a booth at Valencia's Digital Technology Summit. Photo courtesy of UNGSC.

“IOM ICT is proud to be part of UNGSC in Valencia, alongside other agencies. This collaboration hub aligns with our ICT Strategy and sustainable development goals. With cost-efficient operations, shared ICT resources, and access to talent, we thrive here. Moreover, Valencia's proximity to diverse natural landscapes like mountains and beaches enriches our work-life balance, making it an ideal location for both professional and personal well-being.” - International Organization for Migration

As of 2024, organizations, offices, and teams co-located with UNGSC include:

United Nations Department of Operational Support

- Field Central Review Bodies (FCRB)
- Regional Aviation Safety Office (RASO)
- Strategic Air Operations Centre (SAOC)
- United Nations Medical Emergency Response Team (UNMERT)

United Nations Department of Management, Strategy, Policy and Compliance

- Finance Master Data Management (MDM) Team

United Nations Department of Peace Operations

- Disarmament, Demobilization and Reintegration (DDRSC)
- Justice and Corrections Standing Capacity (JCSC)

- Security Sector Reform Standing Capacities (SSR)
- Standing Police Capacity (SPC)
- United Nations Mine Action Service (UNMAS)

United Nations Entities and Bodies

- United Nations International Computing Centre (UNICC)
- United Nations Office for Project Services (UNOPS)
- International Organization for Migration (IOM)

United Nations Funds and Programmes

- United Nations Humanitarian Response Depot / World Food Programme (UNHRD/WFP)
- United Nations International Children's Emergency Fund (UNICEF)

To learn more, contact liaison@un.org (Brindisi) or unictf-liaison@un.org (Valencia).

Working Together for the Goals of the United Nations



Commemorating UN Day at the UNGSC Base in Brindisi.
Photo courtesy of UNGSC.



Commemorating UN Day at the City of Arts and Sciences in Valencia.
Photo by Samuel Leal.

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Of Service: Stories of Solutions and Impact 1994-2024 was produced by the United Nations Global Service Centre (UNGSC) Communications Team.

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Special Thanks for the Valuable Contributions of:

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United Nations Humanitarian Response Depot / World Food Programme (UNHRD/WFP): Antonio Avella; Andrea Tornese

United Nations Interim Force in Lebanon (UNIFIL): HOM/FC Lt. General Aroldo Lazaro; Afaf Omer

United Nations Interim Security Force for Abyei (UNISFA): Arvin Willy Fajardo; Robert Kirkwood; Aldrin Velasco; UNISFA FTS UAS Team

United Nations Multidimensional Integrated Stabilization Mission in the Central African Republic (MINUSCA): Anandavel Kanaan; Aka Laurent Soungalo; Raneque Whyte

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United Nations Organization Stabilization Mission in the Democratic Republic of the Congo (MONUSCO): Ebrima Ceesay

United Nations Support Office in Somalia (UNSOS): Alphonse Aka Attron

Of Service: Stories of Solutions and Impact 1994-2024 was printed at Publimax on Recytaal paper, 100% recycled fiber.



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