

EDM

EUROPEAN DEFENCE MATTERS

What the first Coordinated Annual Review on Defence reveals

CARDs on the table



> A 'STRATEGIC COMPASS'
FOR THE EU'S CSDP
EEAS' Charles Fries
on what to expect

> CIRCULAR ECONOMY IN
DEFENCE
The Commission's new
Incubation Forum

> EDA INNOVATION
PRIZE 2020
And the
winners are...

CONTENTS

WELCOME	3
COVER STORY: 1st COORDINATED ANNUAL REVIEW ON DEFENCE (CARD)	
› First CARD report published	
Wake-up call and pathfinder: analysis of the main CARD findings & recommendations	4
› After the first CARD: What's next?	
Giving the floor to Member States – interviews	10
› Arie Jan De Waard,	
Armaments Director, The Netherlands	11
› Simona Cojocaru,	
Defence State Secretary, Romania	12
› Saturnino Suanzes Fernández de Cañete,	
Capability Director, Spain	13
Opinion Editorial: General Éric Bellot des Minières	14
The view of the EU Military Staff (EUMS):	
Vice-Admiral Hervé Bléjean	16
› From CARD to PESCO	
How EDA supports the implementation of PESCO projects	18
FOCUS	
› German EU Presidency	
Strengthening the EU on security and defence: Opinion	
Editorial by German Defence State Secretary, Benedikt Zimmer	24
OPINION	
› EU Strategic Compass	
Concrete solutions for concrete challenges: article by	
Charles Fries , EEAS Deputy Secretary General for CSDP and	
Crisis Response	27
IN THE FIELD	
› Advancing Circular Economy in Defence	
› The road towards the 'Incubation Forum for Circular	
Economy in European Defence'	29
› Interview with European Commission (DG ENV)	
Director-General Florika Fink-Hooijer	32
› Three questions to... Luxembourg's Defence Minister	
François Bausch	33
SPOTLIGHT	
› EDA-EU SatCen cooperation	
Natural partners	34
INDUSTRY TALK	
› "We need to collaborate to create our own joint capabilities"	
Interview with Oliver Väärtnõu , CEO of Cybernetica	37
INNOVATION CORNER	
› EDA Defence Innovation Prize 2020	
"And the winners are..."	40
QUO VADIS EU DEFENCE?	
› A look beyond 2030	
By Frédéric Mauro (IRIS)	42



Editor-in-Chief

Helmut Bröls

Design

Simon Smith Associates

Printing

Drukkerij Hendrix NV
Kiezel Kleine-Broegel 55, B-3990 Peer
Belgium

This document is published by EDA in
the interests of exchange of information

Front cover image: © Shutterstock
Other images: EDA, Shutterstock,
Thinkstock, iStockphoto

EDA is a member of the European Military Press Association

CONTACTS

Elisabeth Schoeffmann

Head of Media & Communication

Helmut Bröls

Media & Communication Officer

European Defence Agency

Rue des Drapiers 17-23

B-1050 Brussels

www.eda.europa.eu

Contact: info@eda.europa.eu

Catalogue number

QU-AC-20-002-EN-N

ISSN (2443-5511)

© European Defence Agency (EDA) November 2020. All rights reserved. The entire contents of this publication are protected by copyright. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means: electronic, mechanical, photocopying, recording or otherwise, without the prior permission of EDA. The reproduction of advertisements in this publication does not in any way imply endorsement of their content by EDA. The views expressed in the articles are those of the authors and do not necessarily reflect the official position or policy of EDA.

Advancing Circular Economy in Defence

As concern for climate change grows, so do efforts to mitigate it, with the EU having led the way. At the forefront of its initiatives is the European Commission's Green Deal, unveiled in December 2019. A central part of it is the "Circular Economy Action Plan", which aims to boost the recycling of resources, lower waste levels and, crucially, to reduce Europe's dependence on imported strategic materials and components.

This has direct implications for the European defence industry which needs to turn greener to reduce its environmental impact while strengthening Europe's strategic autonomy. The European Defence Agency (EDA) will be working closely with the Commission via a new "Incubation Forum" to generate cooperative project ideas for Member

States, to help steer them toward a more circular defence.

By some estimates, a well-implemented circular economy in general could reduce Europe's consumption of new materials by more than 30% within 15 years and by a whopping 53% by 2050. However, to get there, Member States' energy-and-resource

intensive defence forces will need to join the effort as well, by looking at the overall 'circular' possibilities, from additive (or 3D) manufacturing techniques to reforms of their procurement rules.

Within EDA, the notion of a circular basis of consumption and production that loops in European Defence well pre-dates the Green →



Deal's launch. As early as 2016, the Agency commissioned a study from Cambridge University to examine if and where national Armed Forces had greened their activities and procedures, and how these could be applied more widely across EDA's then 27 Member States' militaries.

"That study, completed in November 2017, definitely demonstrated the circular economy's interesting potential and many advantages for defence," says Pierre Di Toro, EDA's Policy Officer for Industry engagement & EU policies as well as access to EU funding. "Not only did it point to those Member States who are addressing the issue, but also to the need for a more structured and collaborative approach across their Armed Forces."

EDA-Commission cooperation

Preparations for such an approach are in the pipeline. In February, based on an EDA Steering Board mandate, the Agency officially began consulting with the Commission's Directorate-General for Environment (DG ENV) about the potential of circularity in defence within the new EU

Green Deal. The concrete goal? To explore whether the share of the EU LIFE Programme under DG ENV management could provide EDA with funding to help transition Europe's militaries to a more circular footing.

EDA has already been cooperating with the European Commission (namely DG Energy and the Executive Agency for Small and Medium-sized Enterprises) on topics related to the European Green Deal to promote energy efficiency methods across national militaries, for example. That led to the creation in October 2015 of the "Consultation Forum for Sustainable Energy in the Defence and Security Sector" (CF SEDSS), a European Commission funded initiative managed by EDA which is still thriving.

As for the circular approach to European Defence, "the first milestone was to embed this idea at the highest political level of the European Commission by putting it to the Commissioners themselves. Essentially, we asked the following question: could you entrust EDA directly with EU LIFE budget, because as an intergovernmental EU Agency, EDA should not be treated as

any other player (e.g. industry or private research groups) to compete for funding," observed Di Toro. Last June, the European Commissioners approved the required amendment to the EU LIFE Programme, thereby entrusting EDA with the budget.

As a result of this, the Commission's DG ENV and EDA plan to sign the final grant agreement by early 2021, in order to launch a new forum to help apply the Green Deal's Circular Economy approach to the European defence sector. Mainly funded by the DG ENV's long-standing LIFE programme (under its environmental actions) and managed by EDA, it will be called the "Incubation Forum for Circular Economy in European Defence" (LIFE IF CEED). A two-year effort, it will have an initial budget of at least €900,000, with DG ENV contributing 55% and the balance coming from the Defence Directorate of Luxembourg's Ministry of Foreign Affairs.

Incubating projects

The new initiative will organise conferences and workshops bringing together experts from defence ministries, industry, national research centres and universities to

exchange innovative ideas and share lessons learnt on the best practices and ways to apply the circular economy concept to the defence sector.

"The main aim would be to incubate cooperation projects with as many Member States as possible – things with a concrete impact," Di Toro said, adding that EDA's constituent defence ministries may at anytime define the specific topics for the future forum's work. "If we can come up with clearly defined projects, with groups of Member States willing to develop them, EDA will search funding at European level to implement and make them happen".

There are several potential circular economy-related aspects for Europe's militaries to tackle. These include additive manufacturing, energy and environmental improvements, smart materials, green procurement rules, the recycling of materials and supplies often thrown away after use, and revisions to national laws that could open the door to a more circular economy in defence.

Ministries of Defence's procurement rules are also an incredibly challenging part of the whole circularity equation, according to Di Toro. "To what extent is circularity already there? Well, to the best of our knowledge: not enough yet," he said. "The scope for improvements is simply vast, from mandating the eco-design of commercial-off-the-shelf technologies to the recycling of batteries to more use of electronic communications for reducing paper consumption. Indeed, digitalisation, which is nothing new, becomes a key principle for the circular economy."

Industry-wide participation will be important. "We want all defence-related and dual-use sectors that sell to the military, to become involved in this Incubation Forum to provide DG ENV and other Commission's DGs with relevant feedback so that future EU policies on circular economy are defence-friendly regarding the EU's rules on procurement," he said.


Tackling regulatory barriers

One early IF CEED priority could be to analyse the regulatory barriers that unintentionally obstruct Member States' Armed Forces

from implementing circular best practices. Here one could think of practices that lack attention to environmental and recycling aspects, such as outdated storage and disposal techniques for ammunition.

The reduction or re-use of operational waste is a key circular economy goal, as would be requirements that commercially produced goods and supplies which militaries purchase have longer life-cycles built into them. Europe's armies obviously seek that for their weapons and platforms, but there are many other areas of military activities that could be reoriented toward circular efficiency and recycling, such as clothing or other personnel gear. For instance, the Dutch army has moved determinedly in this direction in recent years (*see box below*).

Finally, ensuring that all militaries reference as much as possible the EU's REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) directive would be another important objective.

Due to the ongoing COVID-19 pandemic, it is difficult to predict when the Agency's new circular economy forum will be able to hold its first physical meetings. "Here we clearly have an issue", explains Di Toro. "For the time being, the pandemic means only virtual meetings can be organised, which is not the best for building together new collaborative projects based on the necessary high levels of trust and confidentiality that are inherent to the defence sector. We'll have to keep our fingers crossed for the new year, hoping that actual meetings will steadily take place again," he said. 



Dutch circular ingenuity

While there are almost endless possibilities for circular efficiencies for Member States' militaries, some are more obvious than others. One surprising source is soldiers' clothing and personnel items, as shown by the Dutch Defence Ministry.

Traditionally, any used workwear and gear would be incinerated to prevent misuse, which meant everything had to be entirely replaced. It was also expensive, costing the MoD €500 000 per year to destroy materials that still had re-use value in them. In 2017, the government's central procurement entity for clothing and personnel equipment, known as KPU, began applying circular principles to its purchases of uniforms, helmets, specialised gear, and other personnel equipment for the 60,000 personnel across the country's navy, army, air force, and military police. The goal was to extract re-useable materials, extend all the items' service life, and thus reduce waste.

KPU's textile recovery effort now generates additional annual revenues of €750,000 for the Ministry, while saving 14,500 tonnes of CO₂ each year – a sterling example of smart procurement via closed-loop recycling.

Interview with European Commission (DG ENV)
Director-General **Florika Fink-Hooijer**

"Circular economy is a clear business case for defence"



What role does Circular Economy play in the European Green Deal?

The Commission's Circular Economy Action Plan is one of the flagship initiatives of the European Green Deal. Through this Action Plan we want to lead Europe towards a more resource efficient, clean and climate neutral economy. The circular economy is a new economic model for the EU. It proposes a change in the way we produce and consume to become more resilient, more innovative and more resource efficient – and partly more autonomous.

It is also a great opportunity for companies who will be more competitive by being more circular. On the one hand, because a more circular economy will help Europe to decouple economic growth from resource consumption. On the other, because the circular economy offers a key contribution to achieve a climate neutral Europe. The 2019 Ellen MacArthur Foundation/Material Economics Report tells us that greenhouse gas emissions are not falling quickly enough to achieve climate targets and switching to renewable energy can only cut them by 55% of what is needed to reach the 1.5 degrees target. The remaining 45% of emissions must come from how we make and use products, and how we produce food.

Why is it important to have the defence sector also included in the EU's Circular Economy?

The European defence industry generates a total turnover of €100 billion per year and 1.4 million highly skilled people are

directly or indirectly employed in the sector in Europe. Like any sector, there are still untapped opportunities to ensure a reduced environmental impact. The circular economy presents a clear business case for the defence sector to be more sustainable while keeping up the competitiveness of the defence industry.

To integrate circular economy models into the defence sector successfully means that the models must not only address resource consumption but also the priorities of the armed forces: namely capability, performance, security of material supply, efficiency and research and technology. Innovation and new business models brought by increased resource efficiency, development of new materials, promotion of secondary raw materials and more sustainable public procurement will in turn not only preserve the environment but also ensure security of supplies, create new jobs, reduce costs for SMEs and larger companies and make the most of public spending.

Can you already anticipate what impact the EU's Circular Economy policy might have on defence capabilities, procurement and industry?

The benefits for defence capabilities, procurement and industry lie in promoting the circular economy through the use of Green Public Procurement criteria, for instance, to foster circularity in uniforms and clothing, or supporting remanufacturing, reparability or reverse logistics. Moreover, a large part of the defence sector is composed of SMEs – which

would particularly benefit from net-savings. Setting up collaborations with the private sector can also establish a productive discussion and exchange of knowledge around the requirements, opportunities, limitations and barriers to the introduction of the circular economy in defence.

For example, in the Netherlands, the Dutch Ministry of Defence, uses circular principles to reduce waste and extend the service life of uniforms, helmets, and other personnel equipment for the navy, army, air force and military police. In Portugal, some pilot programmes have been set to integrate recovery and reuse of materials into the future maintenance of jets without affecting military efficiency and operational capacities. These and other actions throughout the product lifecycle and the value chain can reduce the environmental externalities of Defence, while ensuring efficient collaboration and cooperation within the community, which is a good way to support inclusive change. I understand that these efforts do not start from scratch, as the European Defence Agency (EDA) has already started exploring the topic with reports and individual projects aiming at improving the knowledge base, and also to measure impacts.


How can the Commission help the defence sector move towards Circular Economy? Is there EU funding available for this purpose?

The circular economy is one of the building blocks of the European Green Deal, Europe's strategy for sustainable growth. Funds are available to support all stages of

development of an innovation contributing to the circular economy. For the research phase in the development of new technologies through Horizon Europe, looking for example at research on electronic application for smart equipment. For the related testing through LIFE, which covers at the same time circular economy, natural resources, climate mitigation and adaptation.

For the implementation through the structural funds, at regional and local level for specific military sites or at national and transnational level for a large-scale application. It is important to keep an eye also on the adoption and implementation of the European Defence Fund. The potential long-term gains in technological advancement, capability,

performance, security of supply and efficiency in the defence sector are undeniable.

An EDA project dedicated to circular economy could be a good opportunity to reap the benefits of a more circular economy in the defence industry. We are working together to make this happen. 

Three questions to...

Luxembourg's Defence Minister François Bausch

Luxembourg is a driving force behind the effort to integrate circular economy into defence, in particular through the new Incubation Forum for Circular Economy in European Defence. Why this particular interest and what are your objectives?

Our quest for sustainable development needs to include a closer look at the life cycle of the various objects and products that we use in our life. We may actually have to question our linear "buy → use → make waste" economic paradigm in favour of a circular approach, in which we design buildings, vehicles, machines and other objects and products in a way, that they can be better maintained, repaired and reused at the end of each 'value cycle', without becoming 'waste' and, if possible, without having to be altered structurally.

The implementation of this new concept of circularity involves a design that needs to anticipate and include the various maintenance, repair and reuse possibilities of objects and products as well as of their respective components and materials. These possibilities of maintenance, repair and reuse need moreover to be communicated and shared between producers and potential users. Hence, information and data sharing becomes key.

And which sector would be better suited than defence to start testing and rolling out this new concept in which anticipation and forward planning are inherent to the system? Moreover, the community of defence producers and users is often highly specialised and limited to the same sector and there is already an established culture of monitoring and sharing information.

All these arguments have motivated us to support EDA in establishing an Incubation Forum for Circular Economy in European Defence.

Do you see a potential and willingness for increased European cooperation in this domain?

As European defence cooperation is growing and some Member States have decided to jointly design and procure new capabilities, the potential is huge.



If implemented at an early stage of the research and technology phase, the mainstreaming of circularity principles into our defence supply chains can benefit European industry and economy significantly. Benefits may include: less pressure on the environment, more resource efficiency and a higher security of supply of raw materials, increased competitiveness, a boost for innovation and economic growth, additional jobs and support for the EU to maintain its leadership in setting international industrial standards.

We are aware of several interesting initiatives in various Member States. But, to our knowledge, none of these has reached a status of widespread implementation so far.

Do you already have topics or project ideas in mind, which could be brought to the Forum, in view of being shared and implemented with other participating Member States?

In our view, while taking on board all the experience gained in various pilot initiatives across Member States, it would be important to focus on enabling the operationalisation of circular material, component and product flows in European defence and to address potential barriers, which are often of regulatory, technical, organisational and financial nature, and may impede the implementation of circular economy principles.

Among the enablers, in particular, I see advantages that digitalisation could bring, e.g. helping to increase transparency and data sharing between producers and users of materials, components and products, in particular about how to use, maintain, repair, reuse and, if needed, remanufacture and recycle them after each value cycle.

In Luxembourg, a public-private partnership initiative has developed a "Product Circularity Data Sheet" which is precisely trying to bridge this data-sharing gap and which is currently tested in various industries.

European Defence Agency

Rue des Drapiers 17-23
B-1050 Brussels - Belgium

www.eda.europa.eu

