

# Digital Supply Chain Webinar - 6th July 2022

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Davide Coppola Partner-led/Thematic Initiatives Section European Space Agency

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# Agenda



- ESA introduction
- Digital Supply Chain Announcement of opportunity Objectives Examples of applications Value of Space
- WWF Guest Speaker: Alfred Schumm
- ENEL Guest Speaker: Fulvio Spelta, Giuseppe Leotta
- How to apply
- Questions & Answers





## **EUROPE'S GATEWAY TO SPACE**

WHAT	22 Member States, 5000 employees	
WHY	Exploration and use of space for exclusively peaceful purposes	
WHERE	HQ in Paris, 7 sites across Europe and a spaceport in French Guiana	
HOW MUCH	€6.49 billion = €12 per European per year	

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## PURPOSE OF THE EUROPEAN SPACE AGENCY



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**ESA** Convention

To provide and promote, for exclusively peaceful purposes, cooperation among European states in **space research** and **technology** and their **space applications**."

## ESA SPACE SOLUTIONS



## The largest space innovation network in the world

The go-to place for great business involving space to improve everyday life.

Supporting European companies including start-ups and SMEs to develop businesses using space technology and data.

Offering funding, business and technical support to help to generate successful busin and create jobs.

# **BUSINESS APPLICATIONS**





# **ESA SPACE SOLUTIONS OFFERS**







Zero-equity funding (from €50k to €2M+ per activity)

A personalised ESA consultant

Technical support and commercial guidance

Tailored project management support

Access to our international network of ESA and partners

Access to our network of investors

Credibility of the ESA brand Invested €250m

Over 1200 businesses

# **THEMATIC VARIETY**





Security

## >600 Activities 2016-21

**Environment & Wildlife** 



**Transport & Logistics** 



**Agriculture, Forestry & Fishing** 

>75% SMEs >33% Newcomers



**Energy & Utilities** 

## **Health & Social Care**

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# Next step... Digital Supply Chain

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# Digital Supply Chain : Announcement of Opportunity

Services and products for supporting the digital transformation of the traditional supply chains of sensitive goods.

Examples of areas:

1.Connected supply chain of sensitive goods2.Predicted demand in the supply chain3.Automation of operations4.Monitor the sensitive goods5.Managing the risks

Second wave of the call open from May 2022

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# **Digital Supply Chain**



The pandemic has imposed stresses on all segments of the supply chain systems, particularly challenging for the delivery of sensitive goods, amongst which the pharmaceutical ones have exposed the vulnerability of the supply chain.

At the core of the challenge is not only organizing the services that carry the sensitive goods, but rather making sure that every part of the supply chain is running, to avoid losses throughout the system and prevent delays that could damage the goods due to unstable temperatures.

The Supply Chain needs to embrace the digital transformation, take advantage of digital technologies and manage the risks involved.



# **Digital Supply Chain: Benefits**



- **Traceability**: the proliferation of IoT devices that produce real-time data allows for accurate traceability, monitoring and interventions.
- **Sustainability**: the availability of digital data and cloud computing enables the automation of processes and the optimization of resources leading to sustainable solutions.
- Security: in coordination with cybersecurity strategies, digital technologies such as blockchain can enable secure data-sharing and hinder tampering along the supply chain.
- Risk mitigation: particularly relevant for the insurance companies to significantly mitigate supply chain risks by enabling users to either take actions to prevent disasters or to respond to disruption by activating backup plans.
- Efficiency of the delivery: making sure that the goods are delivered on time by an improved collaboration amongst the different actors of the supply chain with the use of digital platforms and data visualization from digital technologies such as augmented reality and digital twin.



# Digital Supply Chain : Announcement of Opportunity

The intended Announcement of Opportunities targets the development of services and products for supporting the digital transformation of the traditional supply chains, particularly in relation to sensitive goods transport. Among these, pharmaceuticals goods, vaccines, medical equipment, perishable or dangerous goods, luxury goods which impose specific logistics challenges.

### Examples of use cases:

1.Connected supply chain of sensitive goods2.Predicted demand in the supply chain3.Automation of operations4.Monitor the sensitive goods5.Managing the risks

Call open planned on 21 February 2022

# Digital Supply Chain: Use Cases





## • Use case 1 – Connected supply chain of sensitive goods

AI/ML to predict time of goods in motion and between transport modes keeping the related parties informed. Real-time tracking data to estimate the transportation performance, any delay in the delivery routes across all supply chain actors.



## • Use case 2 – Predicted demand in the supply chain

IoT combined with predictive analytics and AI/ML can monitor, collect and report information from the environment and reliably predict demand, recognize patterns, anticipate changes and optimize supply chain processes including distribution and warehouse planning.



## • Use case 3 – Automation of operations

Leveraging space data and digital technologies such as AI, ML, AR/VR and robotics can lower the operational costs of delivering goods and provide more reliable forecasts, analysis of trend data and better services to customers.

# Digital Supply Chain: Use Cases





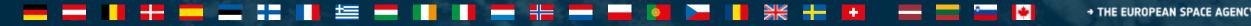
## • Use case 4 – Monitor the sensitive goods status

By receiving real-time location and condition data from sensors on sensitive goods shipments en route, it is possible to continuously run data analytics monitoring sensitive parameters such as temperature and tilt, and other dynamic intelligence to manage and optimize distribution flows.



## • Use case 5 – Managing the risks

The digital supply chain, in particular of sensitive goods, needs to be able to respond to risks ranging from weather and natural disasters, to theft and counterfeiting, traffic and port congestion. By leveraging space and digital technologies and capabilities, such as sensors, robotics, automation and predictive analytics, the transparency and communications throughout the entire supply chain can increase.







World Wide Fund

for Nature

Alfred Schumm

Director Innovation, Sciences, Technologies & Solutions WWF Deutschland

## Felipe Costa

Innovation, Sciences, Technologies & Solutions WWF Deutschland



## ENEL

## Fulvio Spelta, Giuseppe Leotta - ENEL

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Roberta Mugellesi Dow Partner-led/Thematic Initiatives Section European Space Agency

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## **PROCUREMENT APPROACH**

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Digital Supply Chain pitches

Industry pitch submission and early engagement with Delegations

*First batch* Feb-22 to May-22

Second batch May-22 to Sep-22 ESA reply and consultation with Industry and Delegations for orientation Industry Outline Proposal submission

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**Outline Proposals** 

Technology

**Applications** 

Products Services

> ESA recommendation on Full Proposal submission to Industry

BASS

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Industry Full Proposal submission under existing implementation lines Letter of Support from Relevant Delegate(s) shall be provided with Full Proposal

Call open planned from May 2022 to September 2022 for pitch submission

https://business.esa.int/funding/digital supply chain



Registration (minimum 'light registration') on <u>ESA-STAR Registration (https://esastar-emr.sso.esa.int</u>)

Please note that esa-star allows two levels of entity registration: "Light" and "Full". This allows new users wishing to do business with ESA to carry out their registration in two steps. A "Light" registration will grant access to all esa-star services up to and including proposal submission. The award of ESA contracts requires "Full" registration.

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# ACCESS TO THE THEMATIC CALL



- 1. Access the News on ESA-STAR Publication (https://esastar-publication.sso.esa.int/news/),
- 2. Find and click on the Announcement of Opportunity "Digital Supply Chain" Thematic Call. This will give you access to the AO main document and the Pitch questionnaire.

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# **THANK YOU!**

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