

## FINANCIAL MODELS AND INSTRUMENTS TOWARDS CIRCULAR ECONOMY

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**6TH INTERNATIONAL CONFERENCE ON  
GOVERNANCE & STRATEGIC MANAGEMENT**  
“ESG STANDARDS IN THE STRATEGIC PRODUCTION”

**FINANCIAL MODELS AND  
INSTRUMENTS TOWARDS  
CIRCULAR ECONOMY**

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June 8-10, 2023  
Burgas Free University  
Burgas, Bulgaria

**4TH  
INTERNATIONAL  
CONFERENCE ON  
GOVERNANCE AND  
STRATEGIC  
MANAGEMENT  
(ICGSM) "THE  
CIRCULAR  
ECONOMY"**

Organized by  
Universiti Teknologi  
MARA, Malaysia  
and Burgas Free  
University, Bulgaria  
11-12 May 2017  
Venue: Burgas Free  
University, Burgas,  
Bulgaria

*The new ideas in the education!*

IV МЕЖДУНАРОДНА КОНФЕРЕНЦИЯ ICGSM - КРЪГОВАТА ИКОНОМИКА БУРГАС 11-12 май 2017 год.

**ICGSM**  
Governance & Strategic Management



**6<sup>th</sup> International Conference on ICGSM  
“ESG Standards and Securing Strategic Industries”**





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## THE “LINEAR” ECONOMY WE LIVE IN

- It is now widely agreed that the take-make-consume and dispose (linear) model
  - global economies are based upon is no longer viable
  - when taking into account population growth, resource access and scarcity.



## THE “CIRCULAR” ECONOMY

- In a circular economy the value of products and materials is maintained for as long as possible.
- Waste and resource use are minimised, and when a product reaches the end of its life, it is used again to create further value.



## STEPS TO THE “CIRCULAR” ECONOMY

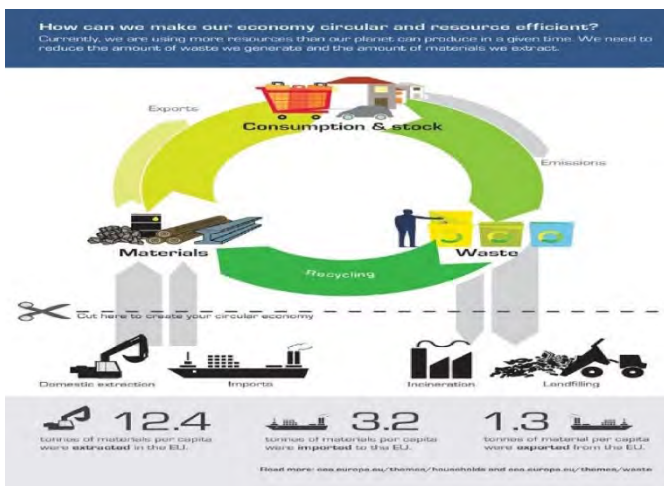
- Better design can make products more durable or easier to repair, upgrade or remanufacture.
- permit requirements for industrial installations, and best practices on mining waste
- Consumption - choices are shaped by the information to which consumers have access, the range and prices of existing products
- From waste to resources: boosting the market for secondary raw materials reuse

*On 2 December 2015, the European Commission puts forward a package to support the EU's transition to a circular*



## WHY THE “CIRCULAR” ECONOMY “IT’S THE MONEY, YOU FOOL”

- ◉ Weighing less than 150 grams, a mobile phone is packed with gold, silver, and rare earth metals.
- ◉ In Europe alone, 160 million discarded but uncollected devices represent a material loss of up to USD 500 million annually



## A TRILLION-DOLLAR OPPORTUNITY

- ◉ An estimated 10 billion physical objects with embedded information technology already exist today and many more smart cars, homes, cities, factories, energy systems, and other networks of connected devices
  - *McKinsey Global Institute predicts that the IoT will have a total economic impact of USD 3.9-11.1 trillion per year by 2025 (70% within business-to-business (B2B))*



## CHANGING THE WAY VALUE IS CREATED

- Example: through real-time transmission of data regarding external factors (e.g. humidity or temperature)
  - that impact the quality of a product in the manufacturing process, the product can be routed to a different stage of the process that is not adversely affected.
- Recent IoT technologies enable products or machines to continuously create value even after they have left the supply chain.
  - Through intelligent assets delivering information concerning their location, condition or availability, companies and end users can capture value in new ways throughout an asset's use cycle.
- The manufacturer could use the information generated by the asset to further improve the product design.

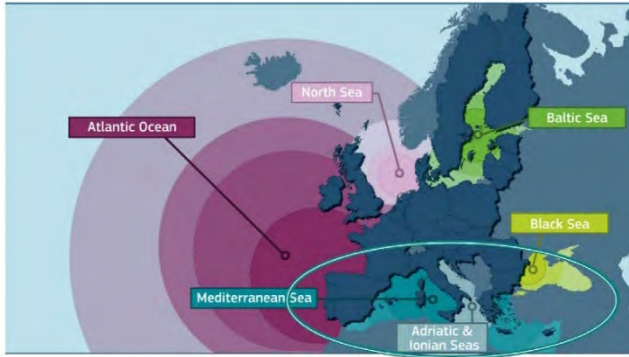
## INTERACTIONS OF CIRCULAR ECONOMY AND INTELLIGENT ASSET VALUE DRIVERS AND VALUE CREATION OPPORTUNITIES

CIRCULAR ECONOMY VALUE DRIVERS	Knowledge of the location of the asset	Knowledge of the condition of the asset	Knowledge of the availability of the asset
Extending the use cycle length of an asset	<ul style="list-style-type: none"> <li>• Guided replacement service of broken component to extend asset use cycle</li> <li>• Optimised route planning to avoid vehicle wear</li> </ul>	Predictive maintenance and replacement of failing components prior to asset failure Changed use patterns to minimise wear	Improved product design from granular usage information Optimised sizing, supply, and maintenance in energy systems from detailed use patterns

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## WHERE THE “BLUE” ECONOMY

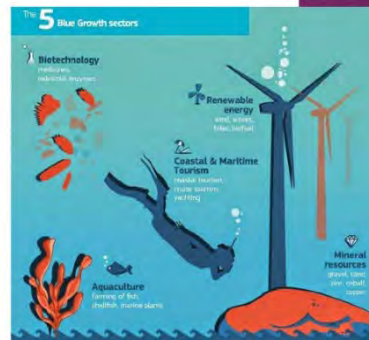


## FOCUS OF THE SUPPORT TO THE “BLUE” GROWTH



## WHY THE “BLUE” ECONOMY - “IT’S THE MONEY, YOU FOOL”

- The 'blue' economy represents
  - 5.4 million jobs and
  - generates a gross added value of almost €500 billion a year
- Promoting the blue economy requires access to affordable long-term financing at scale





## THE CIRCULAR ECONOMY BUSINESS MODELS

- ◉ The circular economy business models demonstrate how a firm creates and captures value
- ◉ Within the circular economy issues is the concept of the sustainability in blue economy
  - and its outreach into its sectors for the blue growth
  - bridging to innovation and sustainability in the maritime sectors



## HOW TO SUPPORT?

- ◉ De-risking major investments and
  - boosting blue innovations on land and at sea
  - to develop new bio-based marine value chains and open up new markets
- ◉ Developing smart and connected territories between land and sea and
  - strengthening the international seas and oceans research/ innovation cooperation
  - to promote a globally sustainable blue economy



## SCOPE OF POTENTIAL PPPS

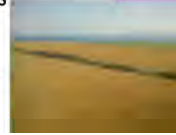
- ◉ Pool the necessary financial resources from the participating national and/or regional research programmes
  - to implementing a joint call for proposals with
  - EU co-funding resulting in grants to third parties
- ◉ The ERA-NET Cofund shall address research and innovation gaps such as
  - achieving zero waste by optimising the use of underutilised and waste material from fisheries and aquaculture
  - ICT in the blue bioeconomy to develop smart efficient, traceable food systems

*The Commission considers that proposals requesting a contribution from the EU in the range of EUR 8 million*



## SUSTAINABILITY

- ◉ We just got the messages from the COP26 meeting in Glasgow and changes are inevitable
- ◉ but not all of them depend on the factors inside the tourist industry
- ◉ Reducing the CO2 emissions related with the flights fall quite in the hands of the engine and airplane developers
- ◉ Providing a variety of fast railway options for the shorter routes to replace the short-distance flights pay in the playgrounds of the governments and the infrastructure projects



## DEFINITELY THE STAKEHOLDERS IN THE TOURISM MAY BRING

- ◉ More sustainable routes, with focus on national and regional travel
- ◉ Circular economy elements in the touristic service – 0-plastics in the kitchen, bringing less luggage; using local public transport
- ◉ Sharing capacities and long seasons instead of overcrowded pick periods
- ◉ In our country Bulgaria we have widespread use of wheat-made cups instead of plastic, and the “blue label” introduced for plastic free beach services



## Artificial Intelligence application in the tourism

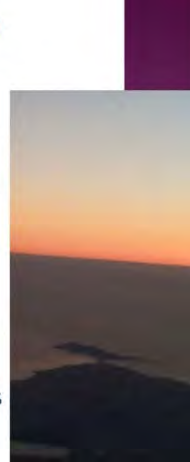
- ◉ It's now and here
- ◉ And proud enough we may say that in our country Bulgaria, for the last couple of years we had a tremendous move towards applying the virtual assistants (popular as the chat-bots) at the hotels
- ◉ But mostly we consider the accelerating power of the AI in pushing the tourism towards:
- ◉ Big data for all the activities and spending modes of the tourists
- ◉ Marketing tools and targeting selected needs of the customers





## AI in pushing the tourism towards

- Automation of the routine operations for the tour agents and tour operators
  - just imaging we are in the time, when a living person on the other side of the phone line is not needed to make a reservation and find the best matching route and price
- Similar with the desks at the receptions, same with the waiters at the restaurants
  - the client might check-in and out, and select-pay-grab the food and drink
- And the people occupying the positions may engage in much more creative activities – animation and socializing the visitors



## THE 'WORKATION' TREND

- My favourite
- When previous expert government took office some 5 years ago, they promoted in Bulgaria
- the idea of short-term-city tourism, and in fact the attracted by the cheap flight and convenient meeting points folks
- proved to be exactly the combiners of working and vacation



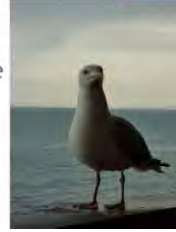
## WORKATION ON

- Workation version in Edu-kation with a lot of lecturers and students now enjoying both their mobilities and touring at the cities and countries of their destination
- And the digital nomads as a special “tribe” of the Workation:
  - they are all around already – more and more on the Bulgarian Black sea coast – like in Burgas, and in our mountains.
  - The USA is still not outscored with its 10 mil “nomads”, but the open borders within EU, even now in the Covid waves are to change the inflows.



### **SMALL, BUT NOTE ALONE IN THE OCEANS AND SEAS**

- ◉ Supporting SMEs efforts for the development- deployment and market replication of innovative solutions for blue growth
  - one of the most important barriers for the development of innovative maritime economic activities is the lack of access to finance for SMEs
  - to develop high-potential, but high-risk innovative ideas and to bring them close to market



### **THE SME INSTRUMENT OFFERS FINANCIAL SUPPORT TO SMES WITH AN EU DIMENSION**

- ◉ To put forward their most innovative ideas in the previously mentioned
  - maritime and aquaculture/fisheries sectors
  - with a particular focus on close-to-market solutions and potential for high growth and
  - internationalisation

### **FRESH IDEAS..**

- ◉ *Establishing facility for promoting start-ups oriented towards the circular and blue economy in the region..*
- ◉ *Developing regional expertise for the design and performance of big infrastructure interregional projects related with the sea and coasts..*
- ◉ *Promoting youth mobility related to the blue economy among the countries in the region both educational and vocational..*





## FRESH IDEAS

### OPTIMISED ENERGY CONSUMPTION BY SMARTER DEVICES AND BETTER INCENTIVES

- Using intelligent assets to improve efficiency in energy consumption is a recognised and growing practice.
- Cisco uses an IoT-enabled system called Cisco Energy Management (CEM) to accurately measure and manage energy use (and CO<sub>2</sub> emissions) at their manufacturing facility in Malaysia, with a goal of reducing energy consumption by 20%.

