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COPENHAGEN

TECHNOLOGY AND BEHAVIOR CHANGE FOR MEDICAL WASTE MANAGEMENT AND CLIMATE CHANGE MITIGATION

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OUR FUTURE DEPENDS ON IT!

HOSPITAL WASTE MANAGEMENT:

- Non-Compliance on protocols
- Lack of access to technologies for data management results
- Lack of transparency, accountability and inefficiency
- The impacts of greenhouse effects on growth of drug-resistant

<u>Energy Efficiency and Prevention of Health Emergencies on Drug-Resistant Bacteria</u>
Targeted towards a International Cooperation for a Task-Force to fast, safe and efficient logistics also financial and human resources management on public services and strengthen the judicial institutions across the world.

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Drug-Resistant Bacteria and global warming

2020

- Covid pandemic brought large amounts of data management
- dangers to data security was exposed
- fragility of the reliability on AI algorithms

2020

- Whorld Health Organization warning: Antibiotic resistance is one of the biggest threats to global health, food security, and development

2020

- Institut de Recherche Pour Le Développement (France) established a link between global warming and an increased risk of antimicrobial resistance.
- Antimicrobial resistance is responsible for some 700,000 deaths each year worldwide: it affects fish production and human health.

2021

- The Gas Emissions plunged in whole world but it isn't sustainable since emission reductions didn't occur from structural changes but it was due to decresead economic activity. The vaccination will set out the normality and Gas Emissions will back to growth.

SOLUTION:

Governance Guide that approaches to humanitarian-key principles to energy efficiency + INTELLIGENT WASTE MANAGEMENT

PRIORITY:

setting a goal of slashing emissions to net zero by 2050

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RECONCILIATION BETWEEN HUMANITY AND CLIMATE

- Sustainability to assure the human evolution
- It requires financial, technological and human resources
- Carbon sequestration: emergency call to prevent the growing drug-resistant bacteria such as global emergency
- Better medical waste management: Covid-19 pandemic increased the risk since medical waste was increased as well

PLANET'S ENVIRONMENTAL HEALTH

1. Half of the countries doesn't make the proper management of health-care waste.
2. Chemical waste radioactive Infectious: 5% are being uncontrolled dumped without following protocols
3. Increased waste and plastics dropped in the environmental are linked to rich countries because they hold a high purchasing power that drives the industrial development building a dangerous degradation circle
4. Segregation procedures requires investments on training, planning, budgeting, monitoring, evaluation, documentation and continuous records.

In 2015, UNICEF and WHO

Example on the risk:

2013- Rio de Janeiro's beach (Brazil): a person found a package with infectious waste like used needles, as well as bottles with feces and urine scattered on the floor. Considering that people from all over the world are enjoying the vacation on the beaches of Rio de Janeiro, the global risk is enormous

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CIRCULAR ECONOMY FOR ENERGY EFFICIENCY: LESS GREENHOUSE

Prevention of Global Warming

Reduce CO_2 emissions in energy production.
Enhance energy efficiency of the industrial processes

Conservation of Resources

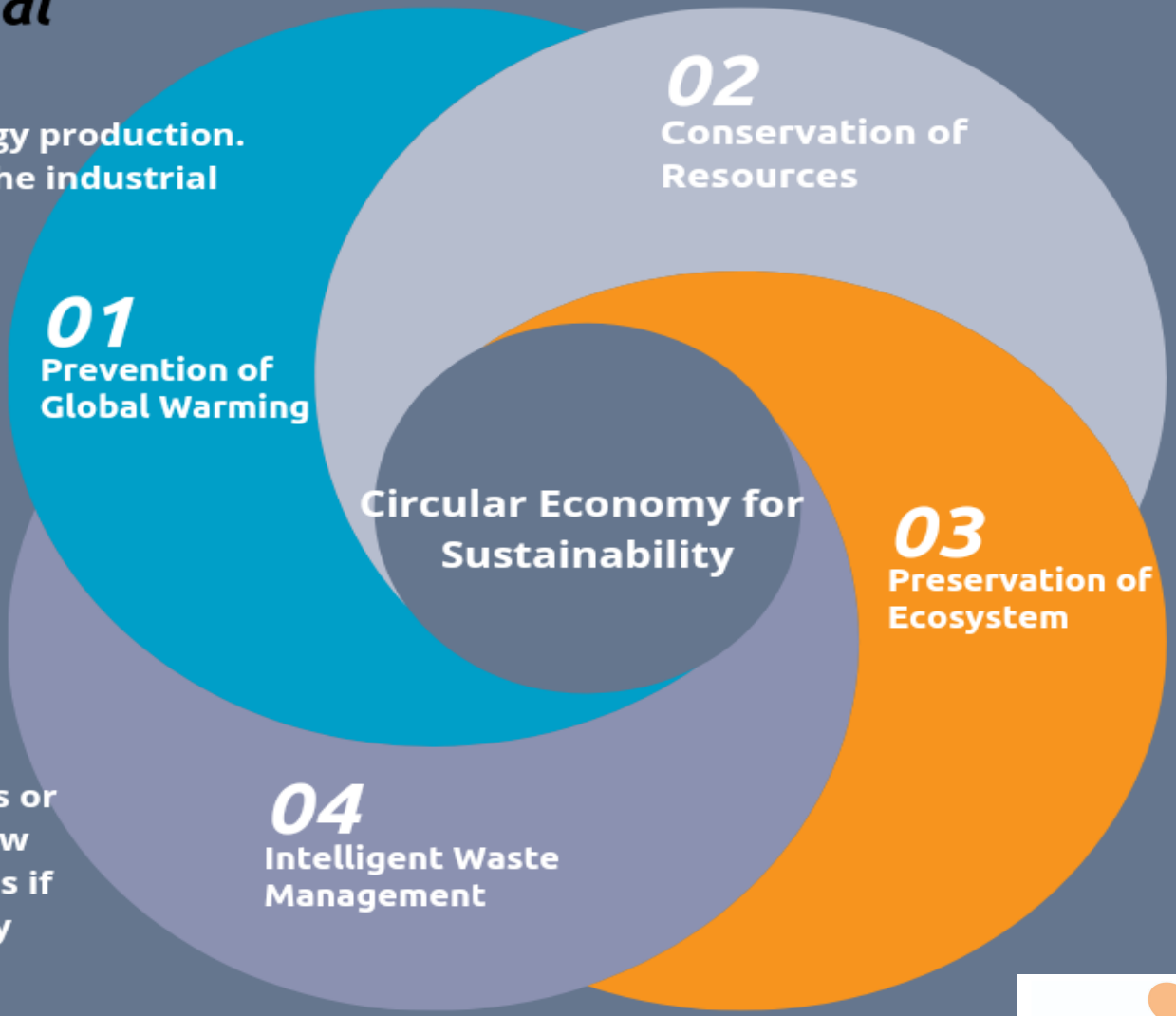
Reuse and recycling

Preservation of the ecosystem

Reduce pollution and negative effects on soil, water and air

Intelligent Waste Management

It saves 30% less energy: reduces or eliminates the need to make new materials through less processes if raw materials that is replaced by recicled materials.



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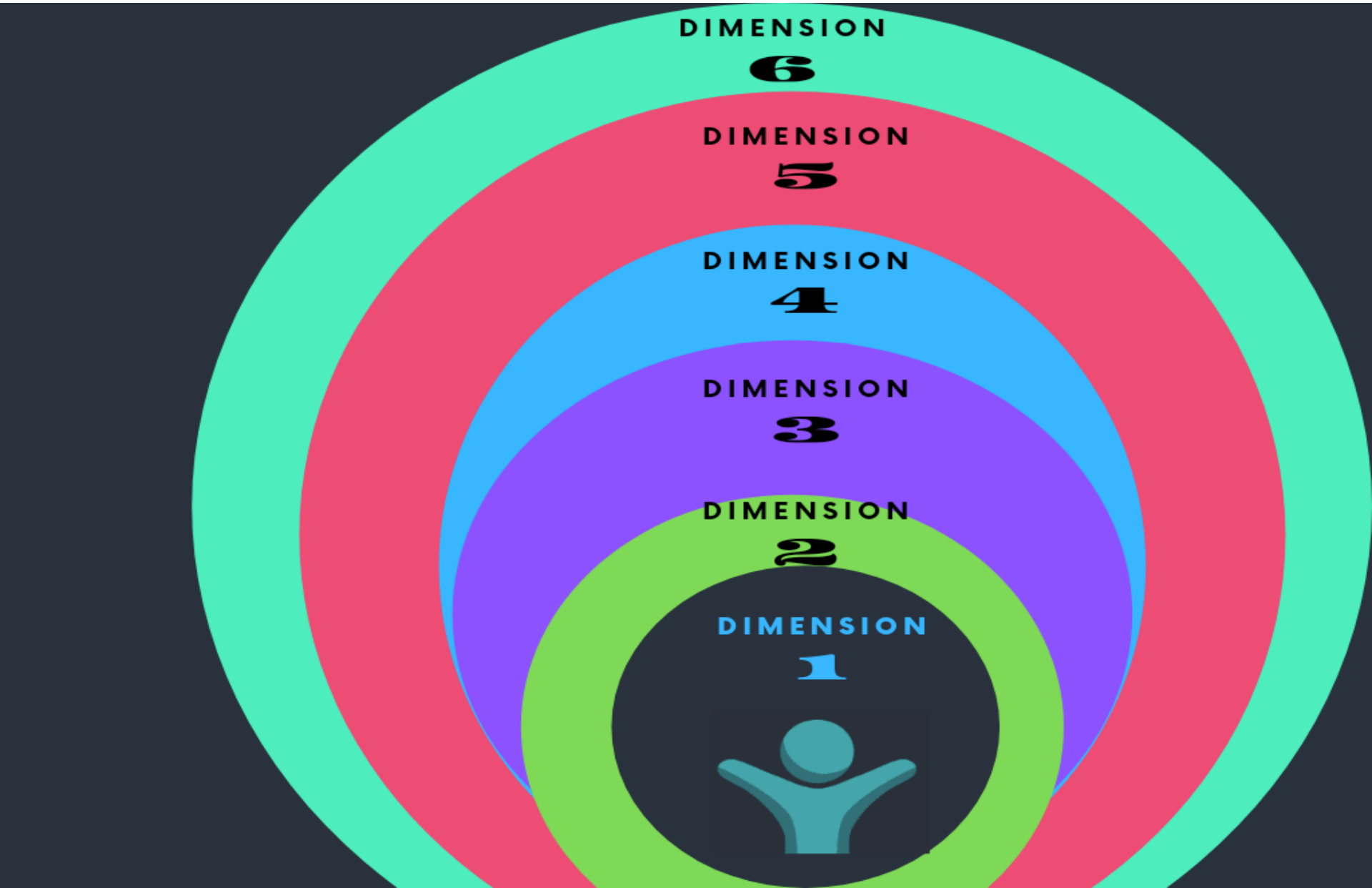
Governance guide covering human-principles by six dimensions:
Trustworthy technologies for medical waste management



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RECOMMENDATIONS:

1. For reducing costs of implementation and access to developing countries: **International Task Force** can deliver technology models by **Open Source and strategic planning** from experts by increasing the stakeholders. Open Source allows **Inclusive, Non-Discriminatory** applications and allows commercial use by adding a Free License.

2. Only use antibiotics when prescribed by a certified health professional

3. Prepare food hygienically

4. Investments on local agriculture for the safe food

5. Improve surveillance of drug-resistant bacteria and proper regulation to promote the **appropriate disposal of medical waste**

6. Strenghthening Juridical institutions by applying efforts to assure that A.I. algorithms would match six dimensions of humanitarian-principles applying investments on Regulatory on Governance Guide. It would prevent the Bias, Corruption, bribery and Laudering Money that save and maximize the public funds

7. INTELLIGENT WASTE MANAGEMENT by technologies such as Blockchain, Robotic and Artificial Intelligence

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INTELLIGENT WASTE MANAGEMENT

- **BLOCKCHAIN** can help to deploy an automated material identification tracking system from hospitals to waste treatment facilities to end of life storage areas.

- These tasks will be improved by IoTs designs with **AUTOMATED CARS**.

- Regarding on recycling process, investments on **ROBOTIC** will keep safe and health the cleaners, employees and all people working with medical hazardous waste.

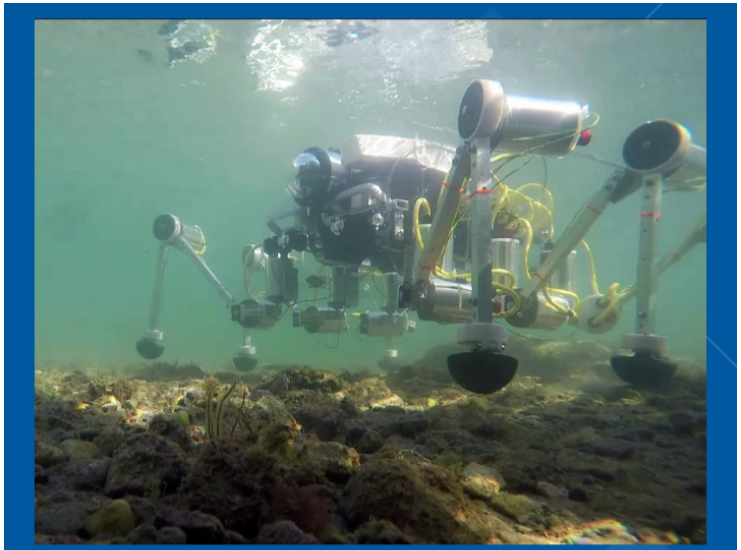
- **ARTIFICIAL INTELIGENCE** and **SMART CONTRACTS** would work to accountability and lawful public funds management also to prevent corruption, bribery and laudering money.

- All those strategic management design by technologies contribute to **FAIR, INCLUSIVE AND NON DISCRIMINATORY PROCUREMENT PROCESSESS.**

USE CASES
ROBOTIC, BLOCKCHAIN, A.I.

Robot Crab to Clean the Ocean

- A plastic-grabbing crab bot called Silver 2 that used in first time in Ligurian Sea in 2019



A trash collecting robotic crab gets its feet wet. Photo: Sant'Anna School of Advanced Studies

*** The American Society of Mechanical Engineers

Recycling: robots doing the sorting

A belt spots an item, a delta-style arm swoops down and grabs it with a suction gripper. It can happen in residual streams and rivers. The benefits are save maney of recycling companies and municipalities.

When the belt spots an item, a delta-style arm swoops down and grabs it with a suction gripper. Photo: AMP Robotics

*** The American Society of Mechanical Engineers

Massachusetts Institute of Technology (MIT)

RoCycle and Cortex, created by artificial intelligence company AMP Robotics, announced precision rates of about 90% at screening. United States and Canada. (2019)

RoCycle can detect if an object is paper, metal, or plastic. CSAIL researchers say that such a system could potentially help enable the convenience of single-stream recycling with lower contamination rates that confirm to China's new recycling standards.

Photo: Jason Dorfman

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Only together and under the same rules and goals that climate action will reach a sustainable land and life for the reconciliation between humans and climate.

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Organisers

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