GREEN DIGITALIZATION AND NEW BUSINESS MODELS

„New Business Models for Human Flourishing & Ecological Regeneration"

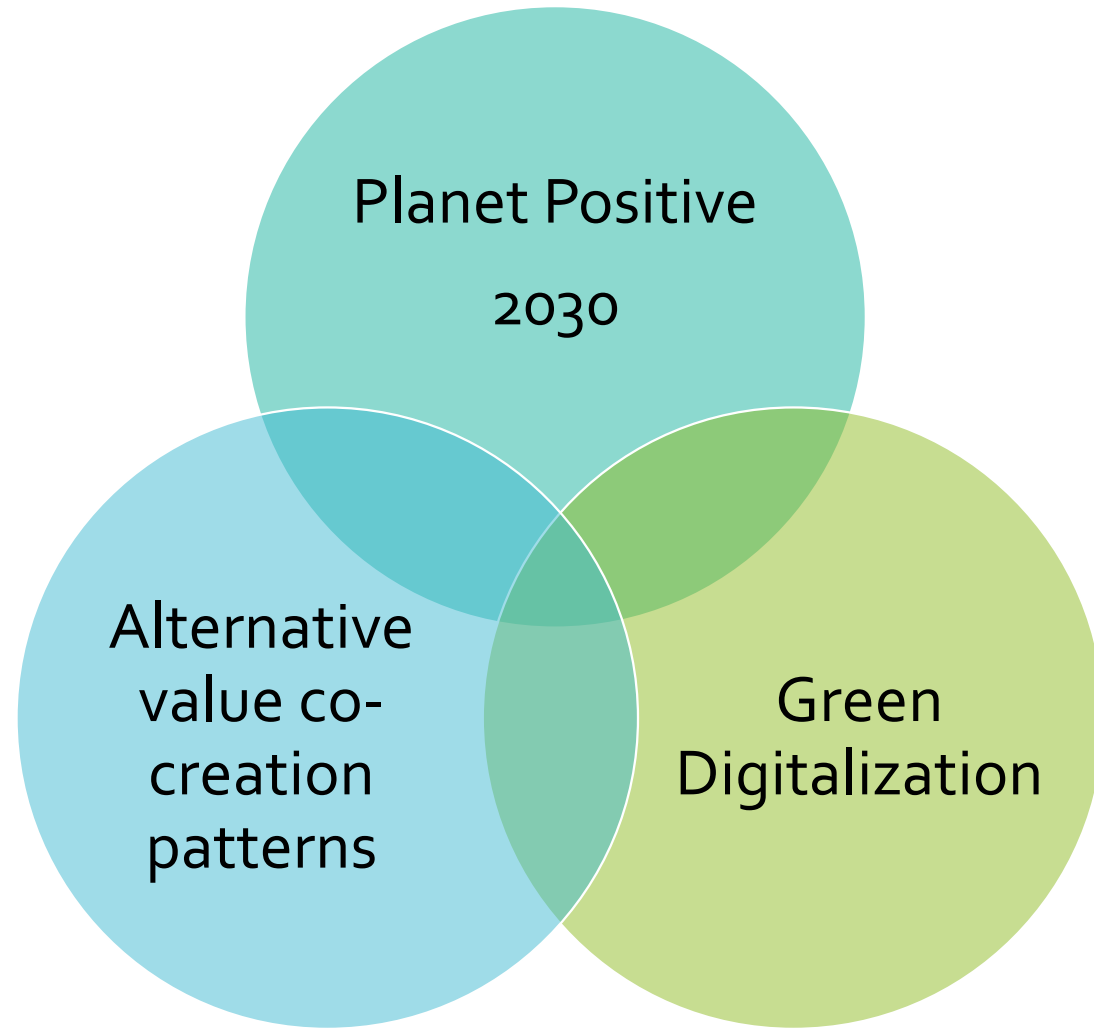Workshop in frame of "The Economy of Francesco" conference

23 of September 2022 - Assisi

József Veress,

Corvinus University Budapest, Hungary

OVERVIEW

Planet Positive 2030

Alternative value co-creation patterns

Green Digitalization

Planet Positive 2030

Planet Positive 2030

- "Strong Sustainability by Design" – a compendium document
  - "*Ethically Aligned Design* for Sustainability."

- "Impact Accountability Assessment Tool"
  - provide feedbacks, insights and practical recommendations for the work

- Institute of Electrical and Electronics Engineers (IEEE)
  - 400.000 + members in 150 countries
  - the world's largest technical professional organization
  - advancing technology for the humanity`s benefit

- Two "impossible goals"

- 1/Reduce greenhouse gas emissions to net 50% of 2005 emissions by 2030
  - Catalyse robust changes facilitating enhancing the resilience and regenerative capacity of the Earth's ecosystems

- 2/ Technological solutions to design, innovate and deploy to reach Planet Positive 2030.

- Global network of volunteering experts working in 13 Committees

Strong Sustainability by Design – Guiding Principles

- 1. Responsible and Ethical Leadership
- 2. Justice, Diversity, Equity and Inclusion
- 3. Affordability, sustainability, reliability, and ubiquitous access.
- 4. Mitigation and adaptation.
- 5. The regenerative imperative and a circular economy.
- 6. Balancing today's needs and the needs of the future.
- 7. Aligning global goals with local goals and actions.
- 8. Act sustainably
- 9. Embracing complexity.
- 10. Responsible use of technology.

WORK COMITTEES

1. Guiding Principles
2. Metrics / Indicators
3. Economics / Regulation
4. Global Methodologies
5. Forests and Trees
6. Rivers and Lakes
7. Towns and Cities
8. Ocean and Coasts
9. Farmlands and Grasslands, Mountains and Peatlands
10. Human Wisdom and Culture
11. Sustainability Commons
12. Sustainable Workforce Opportunities
13. The Arts

Metrics/Indicators Committee - personal experience

Preliminary findings

- Simultaneously act/ facilitate:
  - Technology enactment alterations,
  - Social innovations
  - Innovative business models -> technology take up
  - The aggregation of local changes into global regenerative transformations

- Systemic approach -> simultaneous work through feedback (loops)
  - Facilitate reducing the global material and energy flows!

- Institutional changes
  - Non-zero-sum approach and Interdependence
  - Upgraded cooperation by overcoming organizational boundaries

Alternative value co-creation patterns

Open Source Everything!

- ENVIENTA

- ENVIsioning & ENcouraging Technological Alternatives -> ENVIENTA

- Open Source Hardware ->
  - Access to global open source depository of blueprints and production documentation
  - Localized and personalized delivery of products /services

- Smart contract among customer – (product/ service) provider(s) – innovator(s) (– other stakeholders)
  - Reduce environmental footprint = reduce global material and energy flow generating climate change

- Personalized/ tailor-made products and services from not more than 30 km circle

- Through a digital platform facilitate growingly local and personalized fulfilment of genuine needs
  - "cosmo localization" (P2P Foundation)

- Innovators are paid for the actual usage of their intellectual work
  - alternative to "sell out" vs nurture (global) firm
  - Incubation, support for quasi-start ups

Platform enabled services

- ENVIENTA

- Version tracking of blueprints /production documentation
  - Tracking added value
  - Reputation index maintenance
- Creative Commons - legal frame
  - Licencing
- Smart contracts among
  - Innovator(s)
  - Local producers
  - Consumer

- Quality assurance
- Consumer protection rules' enforcement
- Measuring and reducing the ecological footprint
- Catalyse circular approach
- Incubation and support for innovators, non-traditional –including startup – initiatives

We produce sustainable food and nutritional products on our hubs anywhere in the world

Blendhub S.L. - Spain

- Nutritional and personalized food through a global replication model
- Data-driven traceable sourcing
- End-to-end quality assurance and control
- Innovative modular blending technology
- Global network of cloud-connected factories
- Cosmo-localization through multi-localized service hubs
- Facilitate reducing the environmental footprint
- Food-as-a-Service

Blendhub S.L. - Spain

- A digitized food production services platform that provides infrastructure on a pay-per-use basis. This innovative concept -referred as Food as a Service (FaaS) - facilitates
  - using **local raw materials** while
  - developing and launching nutritional and personalized food simultaneously
  - reducing environmental /carbon foot print.

Waste should not become rubbish!

KOLLABOR - HUNGARY

- Reuse plastics as filament for 3D printing
  - Collecting, milling and remaking plastic as filament for 3D printing
    - Building on lessons from a Dutch experiment of
- From plastic bottles using 3D printed connecting components -> raft
  - Strong enough kids and parents can rafting together

- Mini garden project
  - 3D printed modular home gardens
- Sensors and IoT –
  - Data driven management of (primarily) agricultural projects
- "Farmer Reality Show"
  – Nigeria

Creative community place and maker-space
- "maker-box"

Site for experiential learning
- 3D printing
- digital technologies
- Food-laboratory

European Union grant

KOLLABOR - HUNGARY

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KEY IDEAS

- Change the context - this effects our thinking

- Create a safe environment it helps to focus on learning

- First experience it, then get to know the theory behind it
  - Theoretical learning will have a role only later in the learning process
  - Experiment, gather information on the subject

- No pressure to be flawless
  - If there is internal motivation, they will perform better – because they want to
- It's okay to make mistakes, to fail
  - Mistakes can drives us forward, they can help to better understand
- Acting together - in communities

KOLLABOR - HUNGARY

Build it and take it home!

Robo-adventure - Hungary

- Since children don`t know that something was thought impossible

- they simply do it!

- Robo-adventure method aims
  - to make complicated problem simpler and easy to understand,
  - to enable playful and "success-oriented" thinking

- Experiential learning enables children to prepare working devices from electronic waste

- They reuse tons of electronic devices that the local community collected and that was thought to be unusable
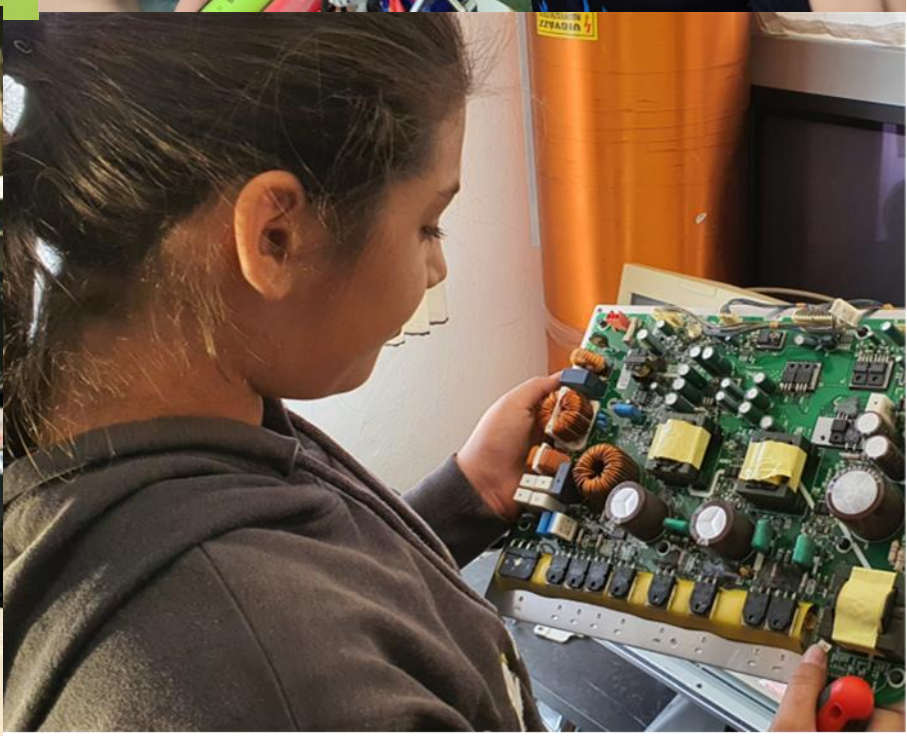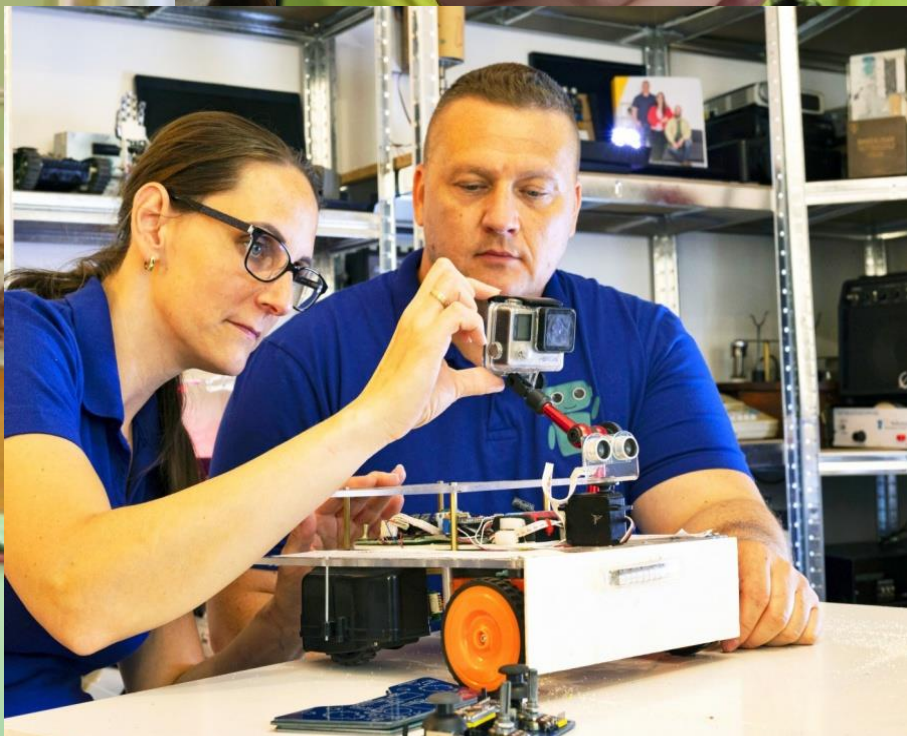
Our mission is to leave behind a more livable planet by recycling electronic waste often from cutting-edge technologies while educating eco-conscious professionals and inventors.

Robo-adventure – Hungary

- 1700 kids participated in the program, among them
- 75 mentally handicapped and more than 100 with learning difficulties
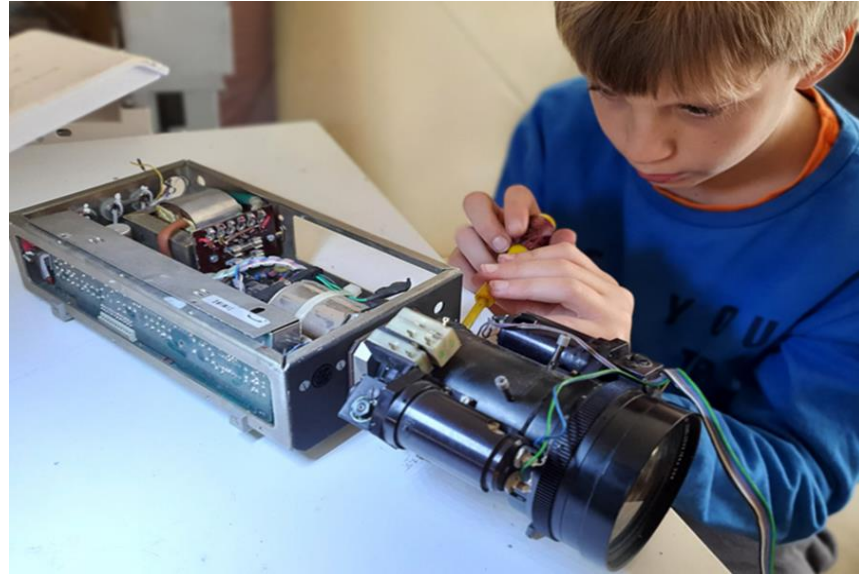
-39 metric tons of electronic waste recycled

-Thousands of appliances repaired and re-created

Green Digitalization

Green Digitalization – altered technology enactment / usage

- Robust changes in the patterns of technology enactment

- Constant reduction of the environmental footprint

- Technology design enabling - rather than replacing – natural processes
  - Capitalize on the indigenous knowledge

- Systematic enactment of the soft resources - (knowledge, information, creativity) - unique capacity of self-multiplication
  - Enactment of shared knowledge as "ultimate substituent" of material and energy

- Significant institutional changes
  - Dual primacy of non-zero sum approach and interdependence
  - Enhancing harmony with nature (overcoming attempts of domination seeking)

Tackling wicked problems of the Anthropocene

- Focus on life quality improvement(s) through personalised fulfilment of genuine needs
  - Ensure the right to repair
  - Avoid planned obsolescence
  - Prevent promoting self-serving growth
  - Accepting the intrinsic value of any living creature

- Elaborate business models enabling reach profitability through regenerative approach

- Stop generating and restore environmental and social damage (externalities)
- Systematic reduction of the environmental footprint
- Thorough fulfilment of the circular approach
- Systematic take up of non-disruptive technology (enactment patterns)

QUESTIONS AND REMARKS ARE WELCOME!

jozsef.veress@uni-corvinus.hu