The emerging value of AI technologies to the transformation of Smart&Sustainable food systems:

An assessment methodology for the Lithuanian region

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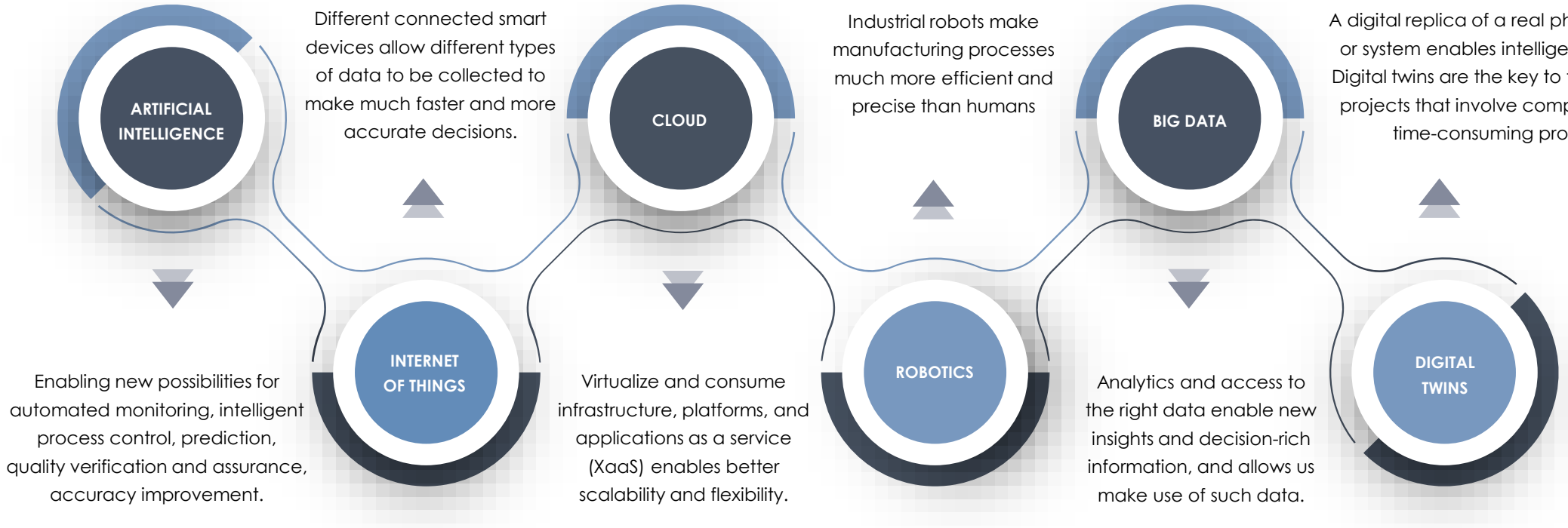
Emerging Technology Trends



The main part of Food system

Six Building Blocks of Smart & Sustainable Food System

Strategy & Policy recommendations

Policy recommendations and strategy documents for the successful deployment of artificial intelligence in food systems.

Development of sustainable mindset

Developing a sustainable mindset within the organization and society, leading to green and environmentally responsible decision-making.

Technological awareness in food sector

Awareness of technology trends and their benefits is essential for their easy adoption in the food market or industry.

Data Management

Correct and systematic data collection is essential to carry out cross-cutting analysis and prepare for the use of AI technologies.

Digital technologies

Automation of processes and activities is the first step towards modernization and digitization (digital tools, robots, IoT and etc.)

Sustainable goals

Priority for all applications of advanced technologies (including AI) should be SDG-oriented.

Impacts

PHASES	1. ECONOMIC	2. SOCIAL	3. ENVIRONMENTAL
Growing	**Precision agriculture** allows early prognosis, faster more accurate decisions, self-monitoring.	**Precision agriculture** allows to ensure more healthy food products, increase quality	**Precision farming** can improve sustainability through more efficient use of land, water, fuel.
Food production	**Robotics and Automation** in the food Industry can increase quality, save time and space	**Robots** useful for Health and Safety issues as they can be adapted to work in extreme conditions, e.g. very hot temperature.	**S&S food production** methods can reduce negative environmental externalities
Distribution	**Autonomous food delivery** attempts to address growing industry trends	**Smart logistics** enables a wider range of fresh products in a convenient and fast way	**Smart logistic** enables optimal food delivery routes and methods, thus reducing street traffic level
Retail	**Digital and smart solutions** allows , improve sales efficiency providing self-service options	**Digital and smart solutions** allows collect data and provide more flexibility, personalized service	**Smart renewables and carbon offsets** allows to reduce a store's environmental footprint
Food services	**Smart apps** gives more business opportunities and save costs	**Smart apps** make it easier to order and deliver food,	**S&S based food delivery can** positively impact the environment: waste and emissions.
Consumption	**Optimizing and predicting** food consumption leads to less food waste	**AI based nutrition apps can** people monitor and manage their health	**Intelligent** food planning and consumption systems leads to less food waste
Waste management	**Advanced waste recycling solutions** to recover useful materials and efficiently use for energy generation	**Advanced recycling solutions** create new jobs in the sector, increases community responsibility	**Advanced recycling solutions** create new jobs in the sector,

The case of Lithuania

Smart & Sustainability Maturity Assessment

Scoring In Lithuania Food Systems

Some metrics considered