Digital Solutions for Smart Food Supply Chain

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Motivation and Description of Work

1. Food waste is a major problem in the current economy, equalling 20% of all food produced in the EU.
   - plate waste in healthcare facilities $\rightarrow$ 6 to 65%
   - hospitalized patients suffer from the risk of malnutrition
   - the prevalence of malnutrition in hospitals $\rightarrow$ 40%
   $\rightarrow$ increased healthcare costs
   $\rightarrow$ prolonged length of stay
   $\rightarrow$ unfavourable prognosis

Solutions?
ADCATER project $\Rightarrow$ development of a smart “farm to fork” platform

- The integration of AI and traceability elements monitoring the entire supply chain;
- AI methods to estimate the consumed food, not only served food;
- Stakeholders engagement – Decision Support Tools
  Food shortages and models of nutritional indicators

Results

ADCATER $\Rightarrow$ Demand Driven Supply Network methodology

#1) Advanced Food Traceability from Farm to Caterer
#2) Smart catering: Computer Vision of Plate

Exogenous factors (weather, seasons, holidays)
Traceability

Catering services in hospitals, senior-care centers, schools, businesses

What did Diner/Patron eat

Achieving Personal Nutrition Covenant
Amounts prepared/served (too much/too little)
Milan Urban Food Policy Pact Compliance
Freshness/Ripeness of produce
Nutrition received
Affect of diner’s mood

#3) AI and ontology-driven Analytical Decision Support Tools