Νέα μοντέλα και “έξυπνες” εφαρμογές πληροφορικής για ευέλικτες συνεργατικές αλυσίδες

Κώστας Καλαμπούκας

Singular Logic
Trends

- eCommerce growth
- Same day delivery
- Universal Postal Sector Transformation
- Globalization

...
The need

Dynamic response to events and ad-hoc orders

- Ad-hoc deliveries/returns
- Missed deliveries
  ~25% of the total delivery requests for EKOL Logistics is on the fly.

The growth of ecommerce and Cross-country deliveries

- Common information models
- Alignment of tools and delivery processes

Important delivery elements in cross-border e-commerce

- Receiving delivery within the agreed time range: 82%
- Full visibility on delivery process, track and trace: 82%
- Electronic notification of delivery: 82%
- Possibility to select delivery locations: 79%

The need

- Merge/consolidate deliveries
- Create ad-hoc collaborations

“The Tweeting logistics objects” Tool

- Flexibility
- (re)schedule deliveries
- Understanding and optimization capabilities

“The Cognitive Logistics Advisor” tool

Secure, private and trusted networks

“Cognitive Logistics Advisor” tool

Load factor optimization

- Load Factor
  (For Transportations Between Turkey and Related Countries)
  - EKOL figures

COG-LO
Collaborative and Cognitive Logistics

Social Internet of CLOs

Cognitive Behavior

New Business Models

Security/ Privacy/ Trust

Interoperability

Cognitive Logistics Object (CLO)
Any actor in the logistics chain
Cargo, vehicle, systems, warehouse, etc.
Cognitive Logistics Objects (CLOs)

• CLOs as digital twins of physical logistics actors

• Different cognitive capabilities of CLOs as virtualized entities
  • Passive CLOs: Basic functionalities
  • Active CLO: Action and decision making

• “On the fly” creation of social networks among CLOs
## Project Results

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<th>#1: New cognitive cargo-centric multi-modal transport models</th>
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| e-Commerce parcels from Slovenia to Croatia through Postal Operator services | • Optimize shipping schedules to make vehicles carry more parcels  
• Anticipate and suggest possible cargo sharing opportunities |
| • Backbone logistics Athens -&gt; Thessaloniki  
• Urban logistics in Athens | • **Backbone:** Test new picking up concepts (parcel shuttle van)  
• **Urban:** Dynamic rerouting and re-planning with cargo hitchhiking (urban) |
| Port of Trieste (Italy) - intermodal operations and forwarding | • Predict delays and events in the railway operation  
• Ad-hoc alternatives through merging and/or utilizing nearby own vehicles/third parties |
Benefits

- Increased load factor
- Reduced costs
- Reduced deliveries - improved assets utilization
- Improve delivery times
- Improve responsiveness
- Improve customer satisfaction
COGnitive Logistics Operations through secure, dynamic and ad-hoc collaborative networks

Project Coordinator: CNIT

Technical Coordinator: Singular Logic

Scientific Coordinator: Jožef Stefan Institute

Project Funding ~ 5 mio €

Start Month: June 2018
End Month: May 2021
Duration: 36 months

Technology Providers:
- CNIT
- Singular Logic
- Intrasoft International
- Swarco
- NEC
- Jožef Stefan Institute

Consultancy:
- TRT

Pilots:
- Pošta Slovenije
- Hrvatska pošta

Associations:
- EATA
- ITS Hellas
- PostEurop
- Univesity of Economics and Business