

# Field service and Logistics Management Software



Save  
Time, Money and Nature  
with TCS real time  
operations management  
and optimization  
software!



- The company
  - Founded 2002
  - Staff appr. 15
  - Turnover >1M€
  - First customer Kuopio area Waste Management since 2002 (municipal)
  - 90% of Finnish Waste Management companies as customer (municipal and private)
- **Advanced and innovative software products**
  - TCS ERP - Real time operations management software
  - TCS OPTI - Optimization and planning software
  - TCS MOBILE - Mobile software for field workers
- **TCS OPTI**
  - Origin in University research project
  - In operational use for 15 years
  - Originally developed for Finnish complex Waste Management
  - Currently in use in various industries from logistics to waste management and field services to warehouse



# TCS is Powerful and Trusted

- Almost 20 years of experience
- Over 150 Customers have installed TCS
- More than 5000 field workers are using TCS every day
- More than 500 000 customer locations are visited per day
- Over 1 Billion products are delivered / collected and service tasks performed annually with TCS
- Only around 10 service request to our Customer Support Team per day



# REFERENCES



# TCS Opti features of the optimization and planning

## Strategic level

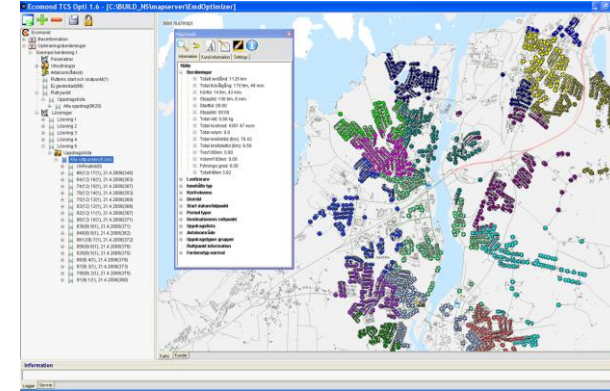
- Management tool to support strategic decision-making
- Simulating tool for different plans
- Optimising the needed resources (human and vehicles)
- Comparing the cost of different options
- Calculating customer profitability and offers / tenders

## Operational level

- Planning of optimal routes
- No fixed areas but optimal areas
- Optimization at company level, not area level
- Utilising historical data as a basis for planning
- Optimal resource utilisation

## Dynamic level

- Floating order of tasks → new tasks are coming in as others are executed
- A quick and organized way to react to any changes
- Road blocks and geofences can be used in optimization
- Efficient, economical and ecological operations



# Constraints

- **Customers**
  - Monthly demand per product (→ daily optimal)
  - Daily minimum and maximum demand per product
  - Weekday based opening hours (more than one per day)
  - Predefined "cutting" areas and customer priorities
- **Storages**
  - Different assortments (type/amount → can or cannot be combined to same load)
  - Assortment loading time and cargo space coefficients
  - Timely optimization of the pickup (the time limitations)
  - Priorities (based on the "last" possible pickup time and other circumstances)
  - Predefined areas/delivery places
- **Trucks**
  - Volume / weight capacity (the actual loading capacity is dependent on the assortment type)
  - Loading / unloading time coefficients
  - Cost parameters, restingtime calculation, contract volume
  - Truck type, special equipment (e.g. lift)
  - Driver changes and truck unavailability's, number of drivers
  - Both transport and shredding trucks can be optimized



# Customer experiences

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## Do what you promise



**70%** reduction of customer claims as services are done as planned



**20-30%** increased satisfaction of our customers

## Reducing costs



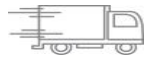
**10-25%** reduction in CO2 emissions



**10-20%** reduction in trucks needed

**90%** reduction in time needed for planning the routes

## Offering new services



**35%** faster on serving your customers



**40%** more services with the same fleet



**60%** more public tenders won



# Thank You!

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