Developing a Platform Approach in Denmark

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FlexDanmark

The FLX Process
Trips and cost in Flexdanmarks system
The Flex Concept

- FlexDanmark combines different trips from many different authorities, illustrated by the ”bricks” below.
- But citizens and their needs are not uniform – they have different service needs and other requirements.

Rehabilitation  General Health  Flex
The Flex Concept

- Each trip is described with all of its needs, requirements and flexibility (or lack thereof).
- Authorities are able to adjust the flexibility (i.e. the time or service) which will increase or decrease utilization.
The Flex Concept

- Comparing the flex concept to the classic game of "TETRIS", then becomes a way of explaining FlexDanmark and its core system’s function of **planning and optimization**.
- The goal of the game is to create complete lines of "bricks" without any gaps, which in this analogy means an optimized planning **with least wasted time**.

Combined & Optimized Utilization
The Flex Concept

- The goal of the game is to create complete lines of "bricks" without any gaps, which in this analogy means an optimized planning without wasted time.
- The core system also identifies and books a resource which fits the requirements to execute the plan.

Identified Resource (Vehicle) is Booked
The Flex Concept

- During the day of execution, **future trips are continuously optimized** to ensure a minimum of "gaps" in the planning.
The Flex Concept

● When all trips for a given day has been completed, the core system also **calculates the cost for each authority** on a per citizen level.
Flex Process

Evaluate

Booking

Optimization

Execution

Accounting

Reporting

Determine eligibility and describe the "citizen"

Describe "trip" from A to B with time and service restraints

Resource cost optimization

Traffic Control & Contract Management

Cost Allocation & Invoicing / Payments

Quality Assurance & Follow-up

FlexDanmark Developing a Platform Approach in Denmark
Standards (XML)

Evaluation
Booking
Optimization
Execution
Accounting
Reporting

CONTINUOUSLY/DAILY/REAL-TIME

Grant Description
Order Requisition
Trip
Completed Trip
Settled Trip

Objective Evaluation
Subjective Evaluation
Ad hoc Evaluation
Centralized booking
Decentral bestilling / Selvbetjening
Ad hoc bestilling

Global Route Optimization
Traffic Control
Vehicle Dispatch Communication
Invoice / Payment Distribution
Business Intelligence Report & KPI

Covered by the SUTI standard

FlexDanmark Developing a Platform Approach in Denmark
Organization Layers

Regions & Municipalities

Regions
- Region Nordjylland
- Region Sjælland
- Region Syddanmark
- Region Midt
- Region Hovedstaden

Municipalities
- Aalborg Municipality + other municipalities
- Region Hovedstaden
- Region Syddanmark
- Region Sjælland
- Region Nordjylland

Departments & Institutions

FlexDanmark

PTO System

Movia

Midttrafik + Sydtrafik + FynBus

NT

Other municipalities

Other municipalities

Other municipalities
Developing a Platform Approach in Denmark

- Medical
  - Evaluation
  - Booking
- Rehabilitation
  - Evaluation
  - Booking
- School
  - Evaluation
  - Booking
- Other activities
  - Evaluation
  - Booking
- Leisure
  - Evaluation
  - Booking

Optimization → Execution → Accounting → Reporting
CONCLUSION: There is a need for a standardized and singular integration point for accessing FlexDanmark’s core system.
Why the Mixing?

- Why do we **mix** the scheduled transport with the individual variable transportation?
New Basic Principle

- The PTOs buys resources (taxies and busses) from external private companies, and, combined with all the planned trips – generated through different remote online ordering modules used by a number of authorities – will optimize the utilization of that capacity (using a real-time planning engine).
We’re creating a platform that can receive orders from many different sources, and which supports planning with multiple optimization logics and modules.
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**FlexTrip**

**Travelplan for public transport**

**External Systems**

**Customer System**

**Web Portal booking**

**Call Center booking**

**FLX Platform**

**Channels of demand**

**Types of transport**

Blue is in operation Green is approved, Yellow is on the way but needs clarification

- Taxi
- Bus
- Train
- FlexTravel
- Car sharing
- Airplane