FUTAR based on foreign best practises

Operations Control with IVU.suite

Dr. Volker Braun

Head of Development Department

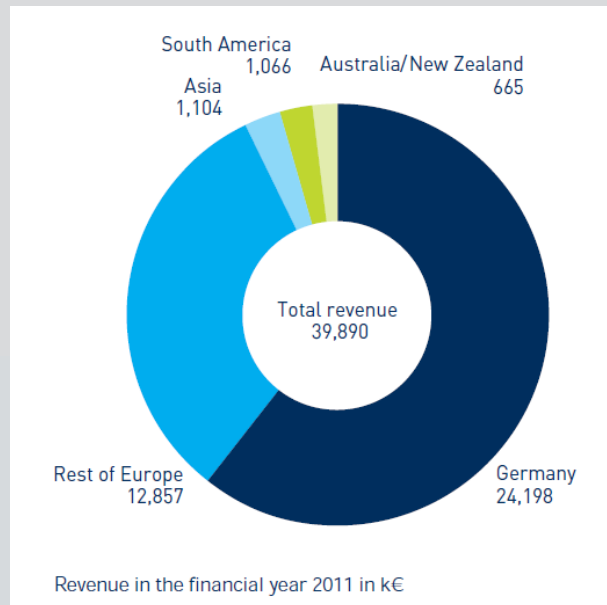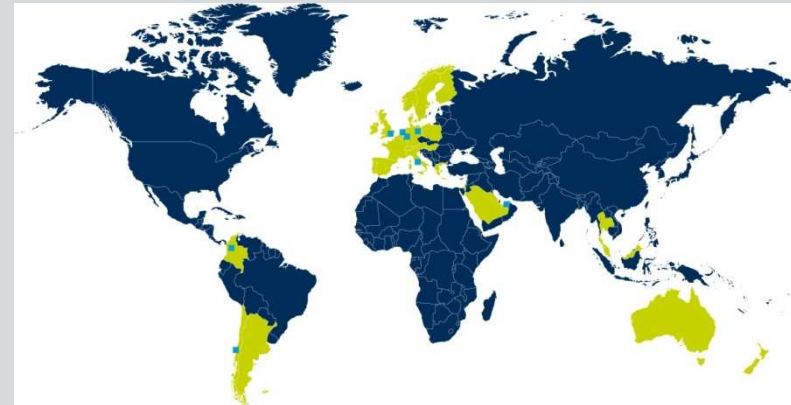**by M. Sc. Daniel Peters, Project Lead FUTAR**

Budapest 2012.09.18

IVU Traffic Technologies AG

1976	Founded
2000	Floated on the stock exchange
2011	Revenue € 39.9 M approx. 350 employees approx. 500 customers

South America
1,066

Asia
1,104

Australia/New Zealand
665

Total revenue
39,890

Rest of Europe
12,857

Germany
24,198

Revenue in the financial year 2011 in k€

Offices

- Berlin (Head Office) (DE)
- Aachen (DE)
- Birmingham (UK)
- Veenendaal (NL)
- Rome (IT)
- Dubai (AE)
- Bogotá (CO)
- Santiago (CL)

ÚJ SZÉCHENYI TERV

Public Transport

Transport Logistics

Information Logistics

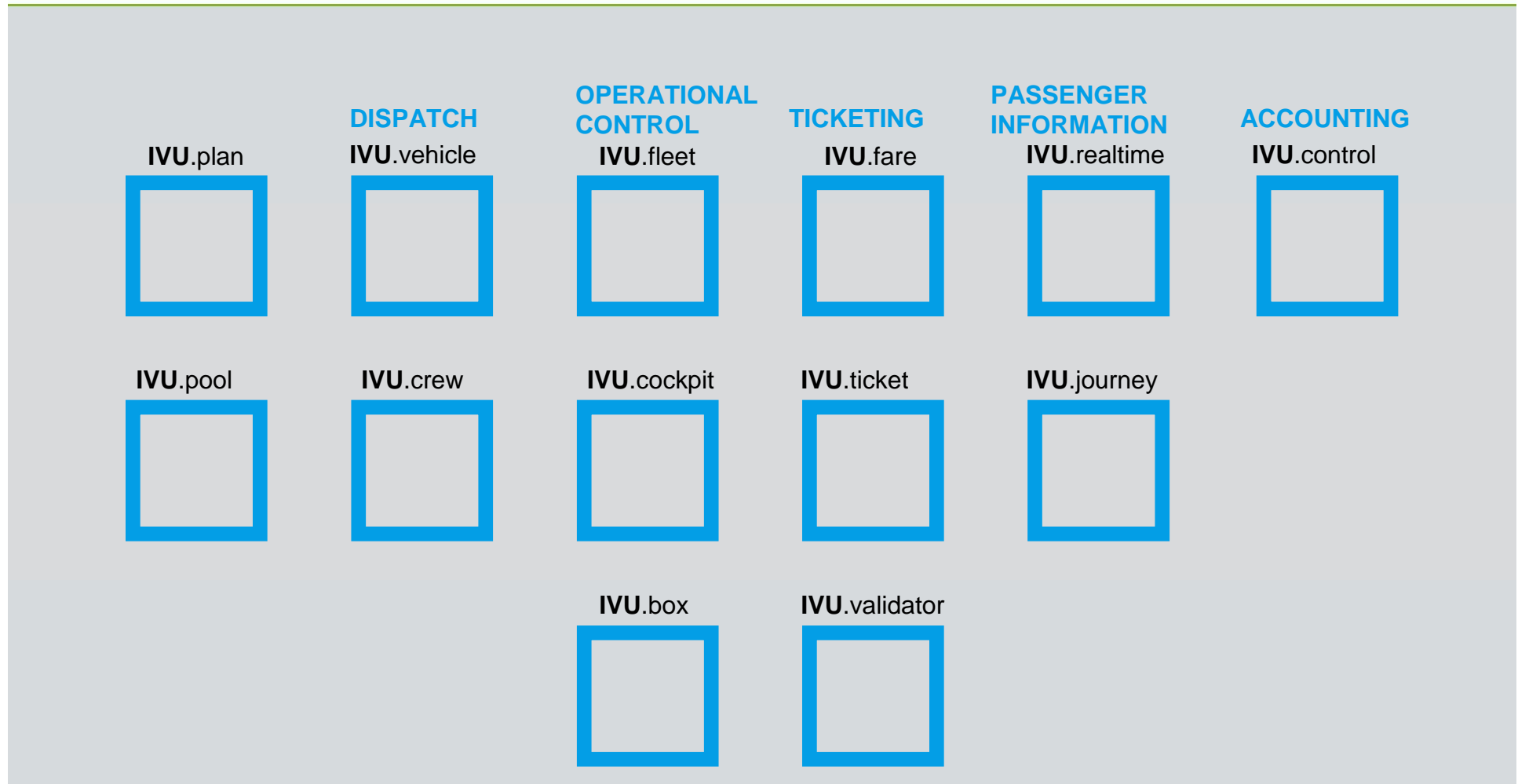BKK FUTÁR

BKV ZRT. BKV. ÖNNEK JÁR.

MAGYARORSZÁG MEGÚJUL

A projekt az Európai Unió támogatásával, az Európai Regionális Fejlesztési Alap társfinanszírozásával valósul meg.

IVU.suite for public transport
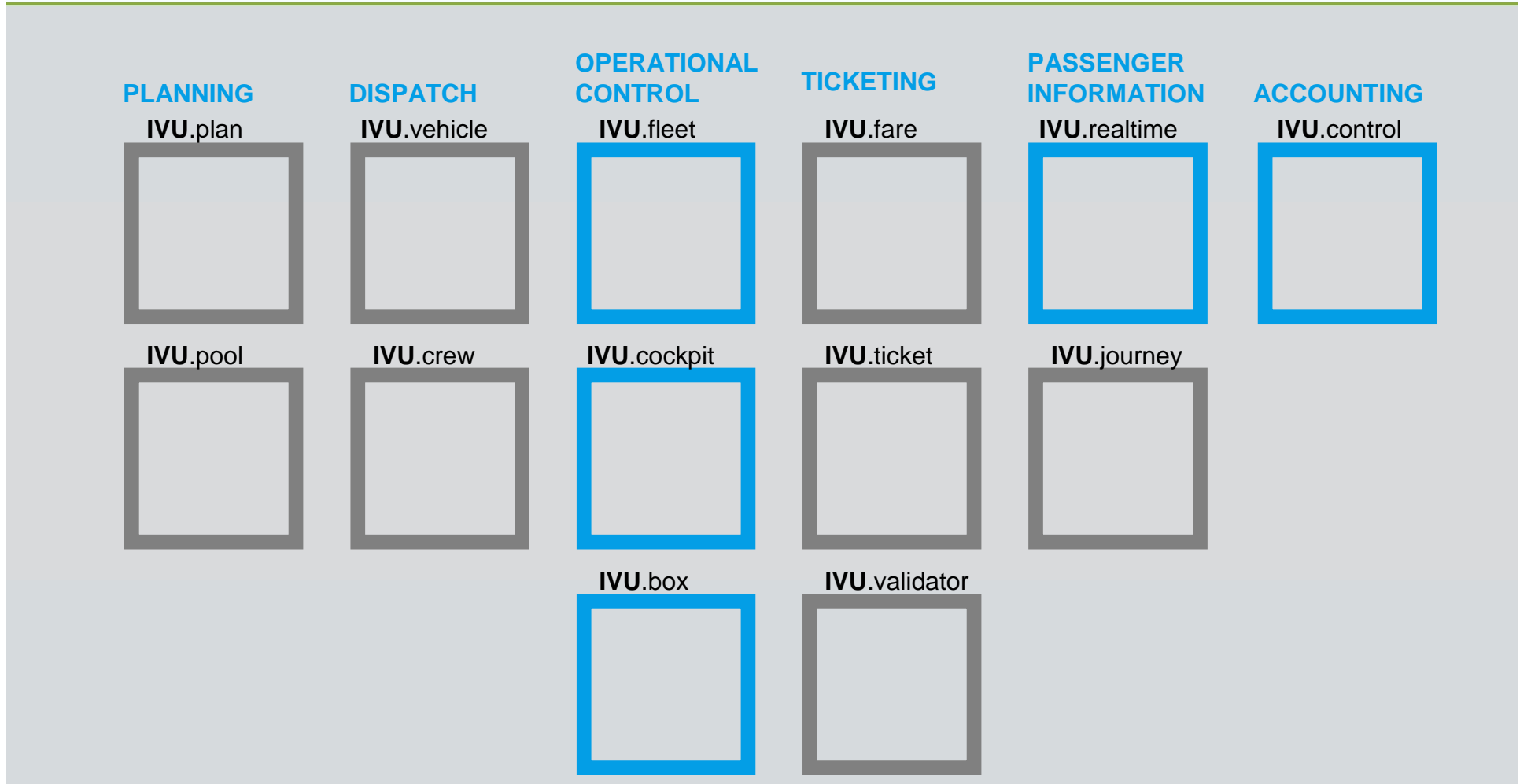# For the full range of operational tasks

ÚJ SZÉCHENYI TERV

DISPATCH

OPERATIONAL CONTROL

TICKETING

PASSENGER INFORMATION

ACCOUNTING

IVU.plan

IVU.vehicle

IVU.fleet

IVU.fare

IVU.realtime

IVU.control

IVU.pool

IVU.crew

IVU.cockpit

IVU.ticket

IVU.journey

IVU.box

IVU.validator

IVU.suite for public transport Scope in the Futár project

ÚJ SZÉCHENYI TERV

PLANNING
IVU.plan

DISPATCH
IVU.vehicle

OPERATIONAL CONTROL
IVU.fleet

TICKETING
IVU.fare

PASSENGER INFORMATION
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IVU.fleet / IVU.cockpit / IVU.box
Selected references

KWS Leverkusen

– Fleet Management with VoIP over GPRS and e-Ticketing for 200 buses.

Qbuzz

– GSM/GPRS-based Fleet Management for 500 buses servicing 200 lines.

Connexxion

– GSM/GPRS-based Fleet Management for 3 000 buses on 770 lines for regional transport.

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Connexxion

– GSM/GPRS-based Fleet Management for 3 000 buses on 770 lines for regional transport.

Mio Cali

– Fleet Management for 937 buses on 81 lines servicing 21 000 journeys per day in Columbia.

Cali

IVU.realtime
Selected references

BVG Berlin transport operators

- Realtime data for 1 300 buses and 600 trams
- Displays at 350 stops and via mobile phone and internet

Wiener Linien

- Realtime data for 480 buses and 530 trams
- Displays at 600 stops

Connexxion

- Realtime data for 3 000 buses

Transport for London

- Realtime data for 8 500 buses
- Displays at 2 500 stops and at 19 000 stops via mobile phone and internet

London Buses

London

connexxion

Hilversum

BVG

Berlin

Vienna

BKK FUTÁR

BKV ZRT
BKV. ÖNNEK JÁR.

MAGYARORSZÁG MEGÚJUL

A projekt az Európai Unió támogatásával, az Európai
Regionális Fejlesztési Alap társfinanszírozásával valósul meg.

Connexxion

Fleet Control and Passenger Information for 3000 busses for regional transport in The Netherlands.

Connexxion Overview

- **The Customer**

  - Connexxion is the leading service provider for public transport by road, rail and water in the Netherlands with 15 000 employees.

- **Managed Transportation Services**

  - 2 995 busses

  - 770 lines

  - 25 000 stops

  - 62 depots throughout the Netherlands

  - passenger information at 500 stops

connexxion

Hilversum

Connexxion
Project Phases

- **2005.05.01 – 2006.10.10**
  Implementation of a fleet management system (control center and vehicles) for 680 vehicles. Integration of the fleet management system and the fare management system using a common hardware platform.

- **2007**
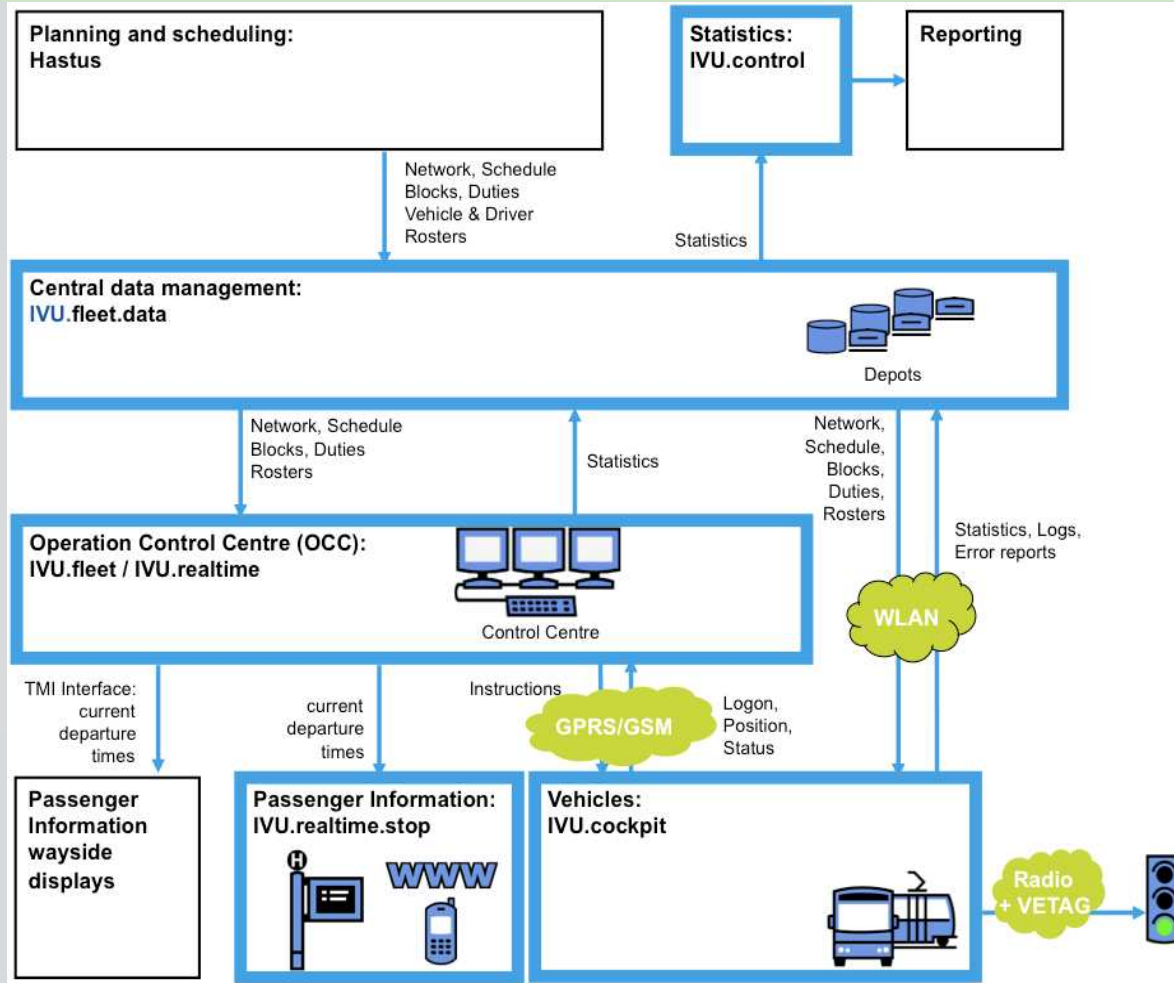 Further roll out to 1 400 vehicles and introduction of IVU.realtime and IVU.control.

- **2009.12.14**
  Roll out of last won concession has been completed, bringing the total number of vehicles in operation to 2 995.

Connexxion
System Architecture

Connexxion
Lessons Learned

- Interfaces might be interpreted in an unexpected way:
  e.g. suboptimal travel time definition caused the dataset to explode.

- The complete dataset should be available at the earliest point in time to prevent "surprises", since the availability of system simulations allow full functional stress tests already in the lab before the roll-out starts.

- Each vehicle is a unique system which might differ in details.

- The customer should participate in the vehicle acceptance of each vehicle.

- Training should be performed before the roll-out is started.

- Integrate the staff that is finally working with the system to increase its acceptance.

Summary

- IVU has more than 35 years experience in designing and delivering IT solutions for the Public Transport Market.

- The products of the IVU.suite are proven to scale from small customer installations with 200 vehicles to needs of Mega Cities.

- But there are still challenges to be solved in the context of the FUTÁR project
    - Short roll-out period of the vehicle equipment
    - ForTe plan/assignment data and EFJ functional integration
    - Controlling old-fashioned Vehicle Displays
    - Integration of Voice Communication System
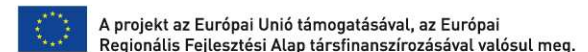
Thank you very much for your attention!