

**ULTRN**

# **ULTRA'S PRODUCTS AND SERVICES**

Selected Solutions for Urban Traffic Problems

## **COMPANY OVERVIEW**

Since its foundation in 1989, Ultra has been committed to the research, design, development and marketing of industrial electronics systems, telecommunication system and data services.

### **SOLUTIONS**

- End-to-end supply chain management
- Mobile payment
- Advanced mobile solutions

## KEY FACTS

- Founded in 1989
- Employees: 99
- Locations: Zagorje, Ljubljana, Maribor
- Global network: Australia, Japan, Czech Republic, Croatia, Serbia & Montenegro

## PRODUCTS & SOLUTIONS



sistem za plačevanje z mobilnimi telefoni

### **M-PAY**

Mobile payment system



**TALKTRACK**

### **TALKTRACK**

Vehicle location, monitoring and communication system



### **ULTRA ENERGY**

A fuel supply chain management system

## PATENTS

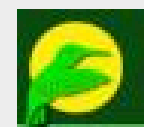
**Bird** - Intelligent Remote Monitoring System

» **EUROPEAN PATENT** - EP 98118155.5

**M-Pay** - Mobile Payment System

» **PCT Patent granted** - WO 02/33669

## SELECTED PARTNERS





mobile payment system



## WHAT IS M-PAY?

M-Pay solution enables a mobile phone to become your own mobile wallet!

With M-Pay a mobile phone user can:

- pay for car park or taxi
- pay for a bus fare
- buy a coke from a vending machine
- use their mobile phone anywhere a credit or debit card was accepted

## HOW TO USE M-PAY?



1. Approach the vending machine



2. Dial 189 for M-Pay center



3. Add 150 for £1.50 and make the call



4. Place your mobile against the terminal



5. Choose the drink

**Dial 189 150 for €1.50 and place your mobile against the terminal**



## **M-PAY VENDING TERMINAL**

Micro Payments for Unattended Points of Sale

**For vending machines, cigarette machines, parking meters, ticket machines, newspaper machines, photo boots, public internet terminals, fruit machines, video, gaming and other amusement machines**

### **Main features:**

- Compact, robust and water-resistant design
- Reliable data transfer in any environment
- No maintenance required
- 20 min plug-and-play installation
- Supports all vending protocols e.g. MDB, Executive



## M-PAY POS TERMINAL

Macro Payments for Traditional POS

**For retail outlets and mobile points of sale e.g. taxis, busses, trains, door-to-door sales, home deliveries, temporary retail outlets without connectivity and power supply**

### Main features:

- Easy to use
- Hand-held compact design
- No need for access to PSTN or data network
- No maintenance required
- No installation required
- End-to-end PIN encryption
- Portable battery operated terminal available

## IMPACT ON URBAN TRANSPORT

- Cashless micro payment solution always at hand (no need for change)
- Additional payment system for car parks
- Additional payment system for bus and train fares
- Less traffic flow obstruction by the end users searching for change

# REAL-LIFE APPLICATIONS



Mobile Payment enabled parking ticket dispenser

# REAL-LIFE APPLICATIONS



Customer paying the taxi fare with the M-Pay POS Terminal

# REAL-LIFE APPLICATIONS



M-Pay Vending Terminal at the Zagreb service station

# REAL-LIFE APPLICATIONS



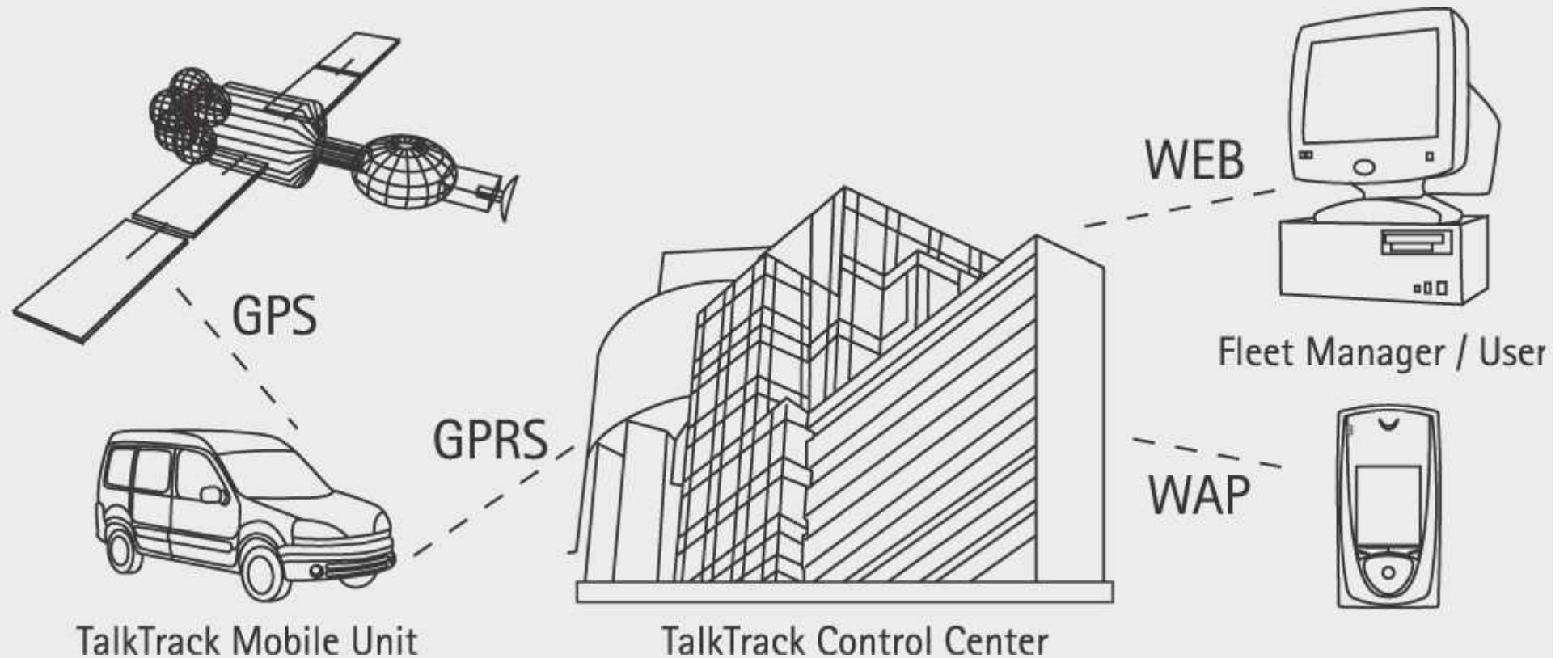
M-Pay Vending Terminal at the Ljubljana central train station



**TALKTRACK**

VEHICLE LOCATION, MONITORING & COMMUNICATION SERVICE

# TALKTRACK SYSTEM OUTLINE



## TALKTRACK MOBILE UNIT



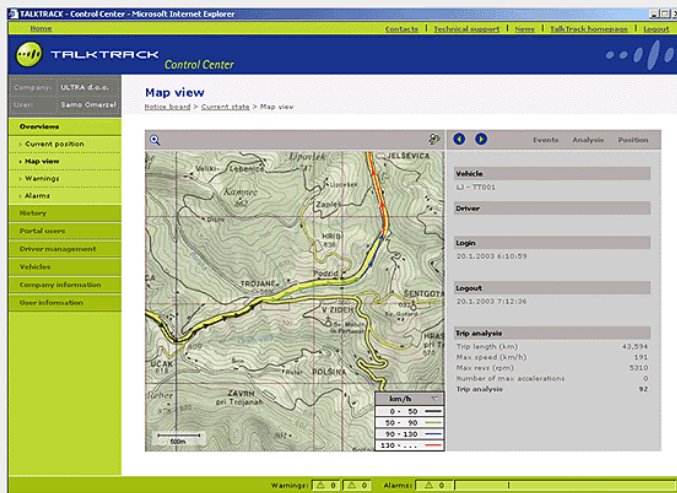
- GPS & GPRS modules
- Position tracking
- Vehicle control
  - Speed
  - RPM
  - Connection to On-Board-Diagnostics (OBD-II)
- Signal connection
- Alarms, open door sensor
- Hands-free telephone installation

## TALKTRACK KEYPAD



- Mobile phone
- SOS button
- INFO button
- Driver status input (through an RF card)
- Voice stations
- Road condition
- Weather, etc.
- Terminal connection to ERP Systems (e.g. MS Navision)

# TALKTRACK CONTROL CENTER – Web portal



- TT web portal
- Accessed by the users through world wide web(web portal)
- Display of current vehicle location and paths on digital maps
- Printout of current and history data about vehicles and drivers
- Driving analysis (speed, RPM, ...)
- Management of vehicle costs (fuel, tyres, service costs, ...)
- Messaging (vehicle, vehicle group, ...)
- Warnings on dangerous situations

## TALKTRACK CONTROL CENTER – WAP portal



- Displays vehicle information
- Displays current vehicle location on maps
- Establishing voice communication with the vehicle

## **ADDITIONAL APPLICATIONS**

Data from TalkTrack center are being used also for data-mining purposes

### **Road network vectorization**

- Using trips made by vehicles enrolled into TT, extremely accurate and up-to-date road system model is set up
- Empiric data is combined with all available state information on road network
- Suitable for countries with no detailed vectorized road network (e.g. Eastern Europe)

### **Public transport arrival estimation**

- Enables customers to look up estimated arrival (actual, by-schedule) through SMS, WAP and WEB

# TRAFFIC INFORMATION SYSTEM

## OBJECTIVES

- Public transport vehicles - real-time arrivals forecasting (WWW, WAP, SMS, large screens)
- Arrival warnings
- Routes presented on digital maps
- Bus stops presented on digital maps
- Commuters' route optimization

# TRAFFIC INFORMATION SYSTEM

## TECHNOLOGY

- The vehicle position data is sent via GPRS to the TalkTrack Control Center.
- A traffic information network is then comprised of the received data.
- Based on the received information, scheduling and current vehicle positions the forecast is delivered to the user.

## ACCESS POINTS

- WWW (World wide web)
- WAP (mobile network)
- SMS (mobile network)
- Information screens

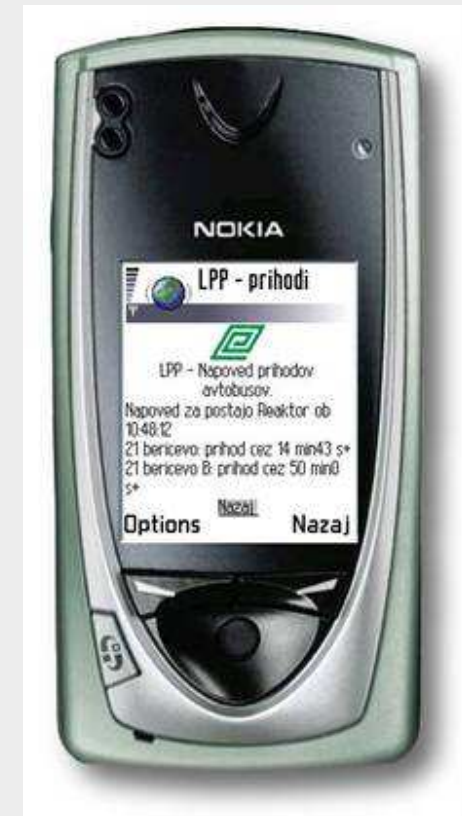
# TRAFFIC INFORMATION SYSTEM

## WWW

- Portal
- Real-time arrivals forecasting
- Arrivals & departures schedule
- User-friendly digital maps
- Route shift planning
- SMS service subscription: warnings

## WAP

- Mobile phone usage
- Real-time arrivals forecasting
- Scheduling
- Digital maps for quick route overview



# TRAFFIC INFORMATION SYSTEM

## SMS Arrival prediction

1. Customer sends the SMS to the following short number (e.g. 1919):  
Bus station number
2. Customer receives the answering SMS
  - Route 6: 2min 24s, 5min 45s, 13min 10s
  - Route 14: 7min 35s, 16min 43s
  - Route 21: 22min

## SMS Warning

- A warning is sent before the bus arrivals
- Reminder time is user defined

# TRAFFIC INFORMATION SYSTEM

## Large screens

- At the bus station
  - All the arrival times for all routes are displayed
  - Advertising media
- Vehicle information window
  - Bus station arrival time displayed
  - Advertising media



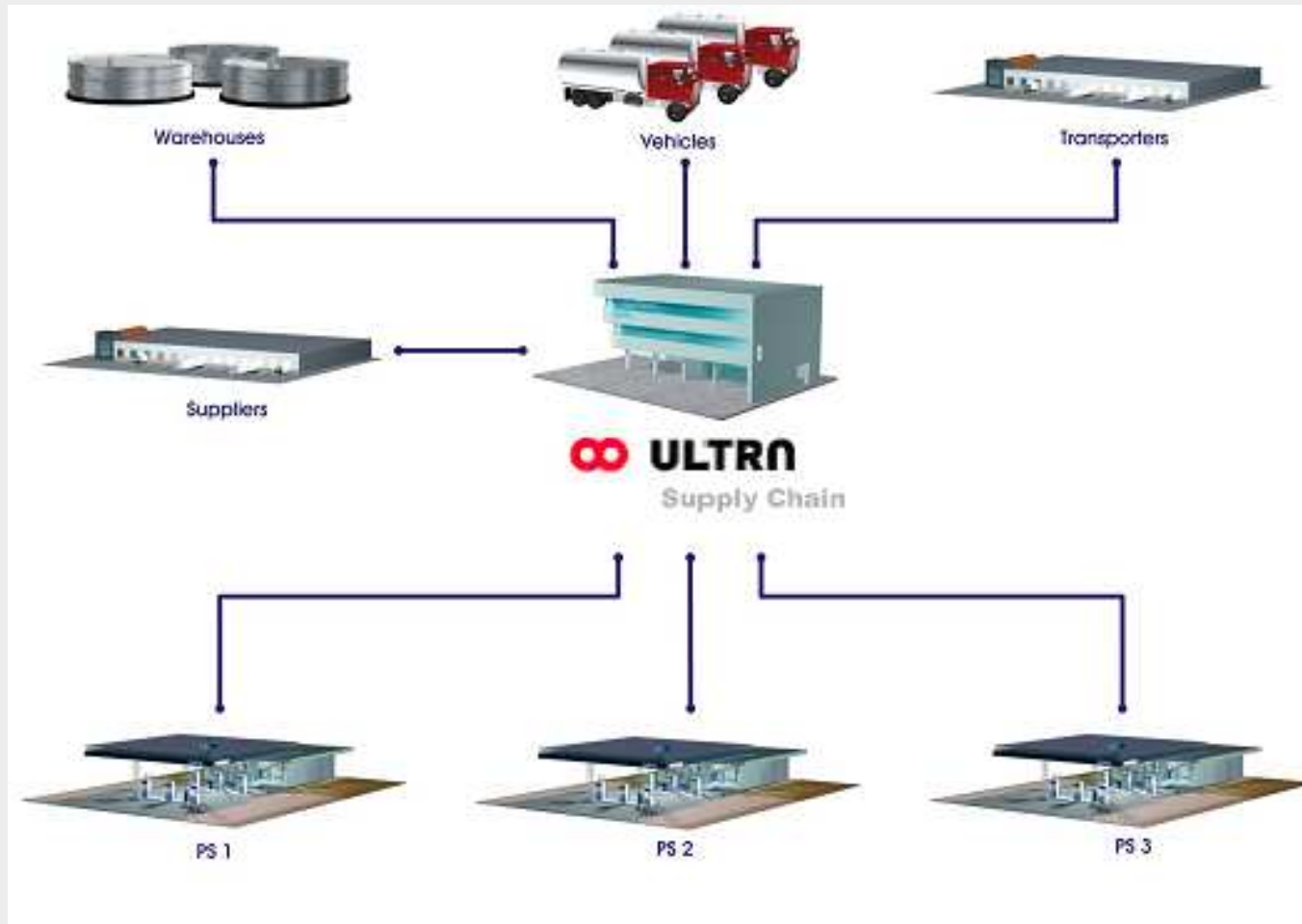
ULTRA ENERGY – SUPPLY CHAIN MANAGEMENT

# SUPPLY CHAIN MANAGEMENT

**The classic objective of supply chain management is the ability to have the right products in the right quantities at the right place at the right moment at minimal cost.**

To achieve this objective a wide range of processes have to be managed:

- procurement
- inventory management
- demand planning/forecasting
- warehouse management
- Logistics
- transportation planning
- delivery scheduling
- delivery management



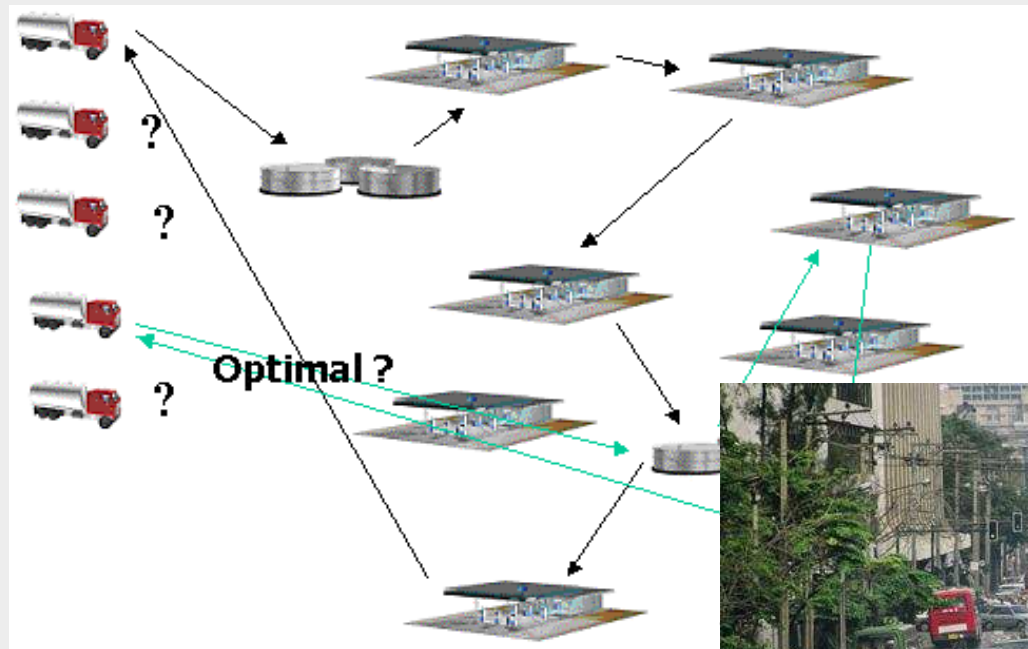
# IMPACT ON TRANSPORT IN URBAN AREAS

## THE PROBLEM

- Optimal distribution for the expected demand
- Urban traffic congestion

## ANALYSIS

- **The Fuel Demand** per petrol station
- **Sources** (trucks, compartments, terminals)
- **Logistic constraints** (who supplies whom, quotas, contracts (suppliers, carriers), lead times, holidays, daily constraints...)
- **Cost optimisation**
- **Daily urban traffic information**



Worst case scenario

# ULTRA ENERGY AND TALKTRACK IMPACT ON TRANSPORT IN URBAN AREAS

## THE SOLUTION

- Automated delivery scheduling
- Planned routes
- Truck-load optimisation
- deliveries according to optimal time and delivery conditions

## IMPACT ON URBAN TRANSPORT

- Optimisation of truck transport in urban areas

## ECOLOGY

- Less noise (programmed driving and optimal engine usage)
- Less congestion (optimized route planning)
- Less air pollution (optimized engine usage and route planning)



# QUESTIONS

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