



Albert Heijn & PIEK

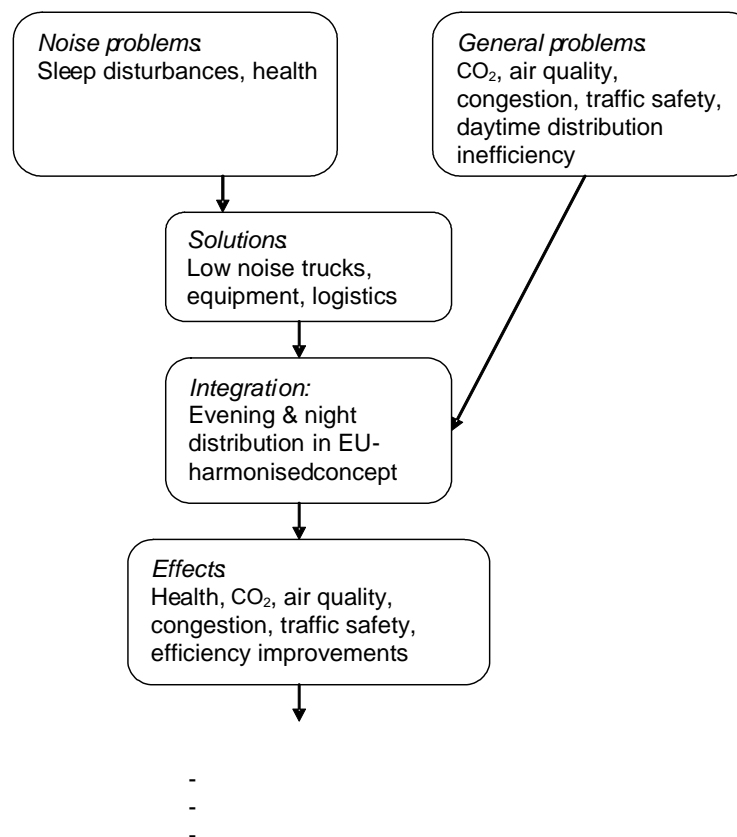
2008

Het alledaagse betaalbaar
Het bijzondere bereikbaar

SenterNovem, the organisation

- Project agency
- Department economic affairs
- Sustainable environment
- Sustainable transport
- Departments of transport, environment and economic affairs

Basic idea behind the PIEK project

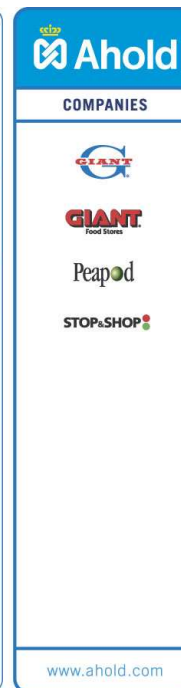


Logistic implementation > 2004

- Companies hesitating to invest
- Traffic congestion problem
- Deliveries < 7.00 0'clock not allowed unless
Peak, quiet vehicle
- Noise reduction accomplished →
Evening-night distribution option
- Investment quiet equipment + 15 %
- Cost reduction > 20 %?

Ahold/Albert Heijn

- Albert Heijn is a subsidiary of Ahold
- 7,000 stores worldwide
- 230,000 associates



Profile Albert Heijn Company

- Founded 1887, founding company of Royal Ahold
- Market leader food in the Netherlands
- Net sales 2007: approx. 8,0 billion euro
- Most innovative retailer in the Netherlands
- Strong brand name, image and label assortment
 - Albert Heijn is one of the most powerful brands in the Netherlands: 97% awareness
 - 4.600 Private Label products
- More than 70.000 employees



Today

Albert Heijn Company in the Netherlands

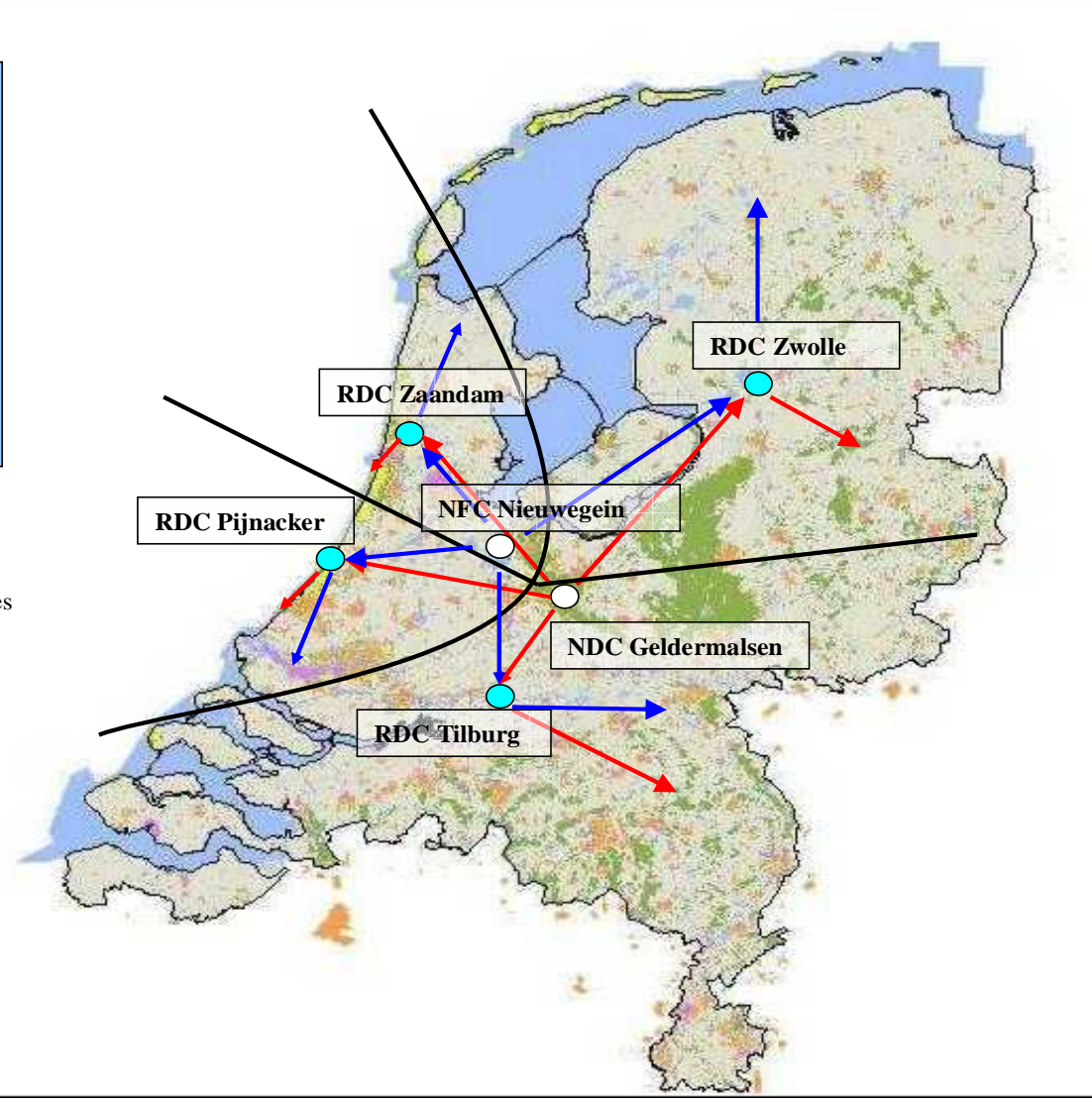
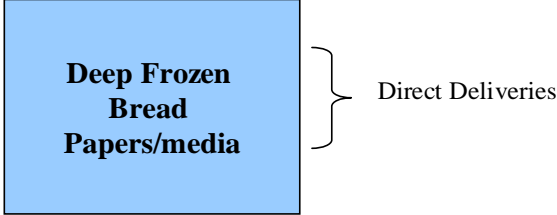
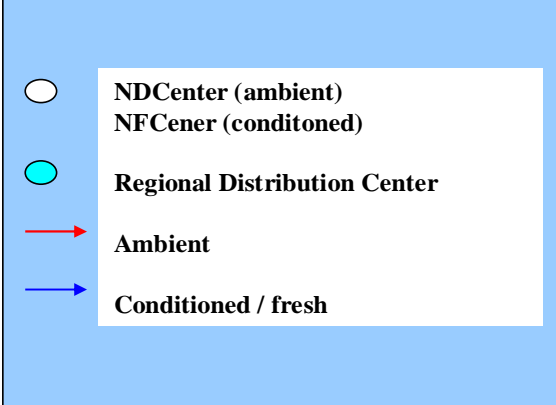
- 4 retail formulas
- Ahold Coffee Company, Ahold Real Estate
- 8 billion in sales
- aprox.1700 stores



GALL & GALL

albert.
bezorgt tot in de keuken

Logistical Infrastructure Albert Heijn



Challenge: Congestion and deliveries



Example: Albert Heijn in The Hague center



Restrictions:
•Rigid trailer
•07:00 - 14:30
•14:30 limitation with penalties

Restrictions:
•Rigid trailer
•Between 07:00 – 10:00
•Difficult to reach

Restrictions:
• Between 07:00 - 20:00
• Temporary restrictions for Rigid trucks between 07:00 - 10:00 due to road-adjustments

Restrictions:
•Euro-trucks only between 07:00 - 08:45 or after 16:00

But how, because.....

- **Access of transport is restricted in cities**
 - **Distribution activities : morning (8 – 12 am)**
 - **Afternoon: no access for lorries only pedestrians**
- **Lorries enter the city in the morning in rush hour**
- **Rules government / city-council for access to inner cities causing restrictions:**
 - **Delivery slots away from the public-hours**
 - **Road safety**
 - **Noise emission**
 - **Length of the truck-/trailer**
 - **Emission zone**
- **Results of restrictions**
 - **More transport movements in smaller time-zones**
 - **Larger /more jam delays in peak-hours**
 - **Increase of transport-costs**

**What did we
do...**

**We participated in
the
PIEK-project of
Senter Novem.**

Night time distribution

- Tail lift 83 dB(A)
- Floor 85 dB(A)
- Wall 74 dB(A)
- Warning system, reversing beep 110 dB(A)
- Cargo stowage
- Refrigeration: 69 - 74 dB(A)

- PIEK : All components < 60 db(A)

A solution: Delivery early morning & late evening



Trials supported by PIEK-project Senter Novem

- Distribution night without noise complaints?
- 10 shops, 9 cities
- 1000 Deliveries morning and evening
- Trials 3 months
- Monitor:
 - Noise complaints
 - Local environment
 - Greenhouse impact (emission)
 - Logistic improvement
 - Costs

Trials

- Senter Novem / Albert Heijn 5 trials in 2007
 - Deliveries between 05:00 and 07:00
 - Deliveries between 19:00 and 02.00
 - > 1000 Deliveries, 1 complaint

- Results
 - Very positive
 - Less emission (noise and air)
 - Cost-savings
 - Better usage of capacity
 - Profits from upgrading Rigid to Euro-trailer
 - Less jam delays / waiting hours / km's

Logistic impact 1: Less congestion

- Time reduction 1 location
- Average time before : 1.30
- Average time trial : 0.30

	Before	After
Tilburg - Eindhoven distance	35 km	35 km
Average time	1:30	0:30
Vehicle	Volvo FH400	Volvo FH400
Distance year	210000	210000
Average fuel consumption	43 l	33 l
Labour cost (23 - 27 euro)	20700	8100
Fuel euro	90300	69300
Cost per year per truck	111000	77400

	Before	After
Tilburg - Eindhoven distance	35 km	35 km
Average time	1:30	0:30
Vehicle	Volvo FH400	Volvo FH400
Distance year	210000	210000
Fuel consumption	43 liter	33 liter
Emission CO2	244 ton	187 ton
Emission HC	4 kg	4 kg
Emission Nox	633	486
Emission PM10	10 kg	7 kg

Logistic impact 2: Bigger vehicles in the night



- Shop in the centre
- Before : 3 Rigid truck = 10 m, 28 roll containers
- After: Tractor Trailer 16,85 m, 62 roll containers

	Before	After
Number of trucks	3 rigids	1 trailer
Total distance	225.000 km	75.000 km
Average driving time	2 hour	1,3 hour
Fuel consumption	74.250 liter	24.750 liter
Fixed costs per hour	45	49
Total fixed costs	81000	19110
	=3*2*300*45	=1*1,3*300*49
Fuel costs	96750	24750
Total costs	177750	43860

	Before	After
Average distance	300 km,	300 km
Number of trucks	3 rigids	1 trailer
Total distance	225.000 km	75.000 km
Vehicle	Volvo FH400	Volvo FH400
Fuel consumption	74.250 liter	24.750 liter
Emission CO2	201 ton	67 ton
Emission HC	4 kg	1 kg
Emission Nox	521 kg	174
Emission PM10	8 kg	3 kg

Transport : From threat to opportunity

Alternative : Increase / enlarge delivery time-slots to evening / night under certain conditions.

Benefits:

- More hours / day for delivering
- Better use of capacity
- Increase road-safety by delivering outside shopping hours
- No length-restrictions using max capacity with less movements

Choices Albert Heijn:

- Noise-reduction by using PIEK-Certified trailers
- Give room in tariff-negotiations for investments in truck / trailer

Future

- Albert Heijn
 - 2010 all store-deliverier PIEK-trailers
 - 2008-2010
 - Approach continued → more cities / more stores in the trial-cities
 - Upgrading early- / late-deliveries in 2008
 - Need to develop other quiet equipment
 - Rollcontainers
 - Trucks (noise and emission)

Conclusion: Positive trails so, Go the whole way !
In 2010, 1000 trucks at PIEK level



And others?

- AH : 800 shops
- Schuitema 800 schops
- Greenery 275 shops
- Dirk 200 shops
- Jumbo 117 shops
- EMTE 40 shops
- Boni 40 shops
- Lidl 300 shops

PIEK International → DISTINCT

- Australia
- Belgium
- Denmark
- France
- Germany
- Ireland
- Italy
- Netherlands
- Poland
- Spain
- Sweden
- United Kindgom

Enjoy the sound of silence

