Green intermodal platforms for efficient logistics in the German Capital region
| 1. | WAGENER & HERBST Management Consultants GmbH |
| 2. | Sustainable Logistics |
| 3. | Green intermodal platforms |
| 4. | Freight Transport and Logistics in the German Capital Region |
| | 4.1 Changes, Chances and Challenges |
| | 4.2 CEF TEN – T and Urban node |
| | 4.3 Innovations |
| | 4.4 Intermodal Platforms today |
| 5. | Freight Village 4.0 |
| | 5.1 Integrated Strategy |
| | 5.2 Freight Village 4.0 – Schönefelder Kreuz |
| | 5.3 e-Mobility, regenerative energy |
| 6. | Conclusion |
1. WAGENER & HERBST Management Consultants GmbH

Consultants in Management, Logistics and Services

Economic and Financial Aspects of Infrastructure

**Company -**
Est. 1990 in Potsdam
Owner managed, independent consultancy

**Team -**
2 managing partners, 40 permanent and associated consultants and trainers

**Locations -**
Potsdam (DE)
Partners in: Amman (JOD), Beijing (CN), Chur (CH), Moscow (RU), Riyadh (KSA)

**Management -**
Dr. Norbert Wagener, Ralf Behrens

**Fields of expertise:**

**Traffic, Logistics and Transportation**
Market evaluation and potential analysis
Traffic surveys and traffic modelling
Traffic and cargo forecasting
Development of toll tariff structure and revenue stream forecast

**Management and marketing**
Strategy development and strategic planning for infrastructure projects, assistance to infrastructure and transport strategy and policy
Optimization of structure and process organization, capacity building

**Financial and economic analyses and appraisal of business cases, investments and infrastructure projects**
Development of financial and economic models for projects (financial revenues and expenses, economic benefits and costs)
Project cash-flow assessment by means of suitable return indicators: financial and economic IRR and NPV, bankability indicators (DSCR, LLCR, PLCR)
Evaluation of diverse investment and management options (private, state, PPP)
Risk analysis in form of sensitivity analysis

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2. Sustainable logistics

Sustainability

ECONOMY
- efficiency
- growth
- technology
- employment
- competitiveness

SOCIETY
- qualification/education
- health
- safety
- access
- integration

ENVIRONMENT
- land use
- air quality
- noise
- biodiversity
- waste
- climate
- resources
2. Sustainable logistics

Positioning of Logistics

Core business!
Partner of trade, and industry

ECONOMY
- efficiency
- growth
- technology
- employment
- competitiveness

Optimal SCM, VAS is key! Customer counts, cash is king

SOCIETY
- qualification/education
- health
- safety
- access
- integration

Use or partnership and contribution ???

CONSUME, NEGLECT OR RESPECT ???

ENVIRONMENT
- land use
- air quality
- noise
- biodiversity
- waste
- climate
- resources

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3. Green intermodal platforms

REDUCE

- environmental impact
- congestion
- accidents (improve traffic safety!)
- economics

at the same time meet enhanced demands for reliability, speed and safety

and bundle resources, develop strategy, comply with multi-criteria optimization and promote creativity!
4. Freight Transport and Logistics in the German Capital Region
4.1. Changes, Chances and Challenges

**Changes**

- 50 years sleeping beauty in efficient logistics
- 20 years urban and educational and transport and energy and water and institutional infrastructure investment and structural modernization
- 20 years of heavy changes in industry and urban economy

**Chances**

- Gateway and interface of Western Europe to the economically emerging markets in North, Central and Eastern Europe
- Modern urban infrastructure, capital region of more than 6 Million inhabitants
- Grow Area with Berlin as most international metropolitan area at least in Germany
- 20 universities, more than 125,000 academic students
- Urban node at three TEN-T corridors

**Challenges**

- More than 15,000 trucks per day pass Berlin in long distance haulage
- Industrial production is changing quick, infrastructure and logistics locations are long term investment
- Social and environmental balance
4.2 Trans-European Transport Network – TEN-T Core Network Corridors

- German Capital region
  - in the center of europe
  - intersection of three TEN-T corridors
    - North Sea - Baltic
    - Orient – East med
    - Scandinavien – Mediterranean
4.2 Trans-European Transport Network – Urban Node / node of three TEN-T Core Network Corridors
4.3 Innovations – energy/mobility/technology

Integrated development approach

Transnational Clusters
- Energy Technology
- Healthcare Industries
- ICT/Media and Creative Industries, Transport/Mobility and Logistics
- Photonics

Additional regional Clusters
- Food Industry,
- Plastics and Chemistry
- Metal

Universities, Science, Research & Development, Human Resources
4.3 Example: Electro Mobility Activities 22/10/2015

4.4 Intermodal Platforms today

- Area and Real Estate Development Driven
- Key Success Indicators:
  - Share of sold/leased out areas in overall areas offered/provided
  - Employees within the Freight Village limits
  - Number of companies and investment amount done by the tenants/ investors/ allocated companies

- Competition with not intermodal connected areas. Inter-community coordination is an issue
- Achievement of Road to rail objectives?
5. Freight Village 4.0

Berlin Capital Area

Logistics cluster

- Intermodal Container Traffic
- KEP
- Automotive
- Retail, food and beverages
- SCM Trade and Industry
- Consumer products

Freight Villages

First co-operations in industrial, space and aviation technologies
Initial steps in education and IT advanced edge development

Freight Village 4.0

- Multimodalism
  - Cargo
  - Units
  - Staff
  - Clients
- Energy, i.e. power, heating,
- Networks of co-operation
- Integrated location and infrastructure development
- Production

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5.1 Integrated strategy

Scenario A: It is plausible to assume that during the years to come, the political situation to boost environmental issues in the region will ease. Scenario B: It is rather unlikely that a.m. political tensions will increase, and if it will be only slightly.

In any case, accounts in the region will require at least contract logistics. They may even require Total SCM with proven environmental records as per regional standards. This is far more sophisticated than today’s situation.

It can be assumed that the region will not only become a hub for containers but also for VAS. In the less likely event, it is assumed that the region will have some trouble to cope with growth and, thus, will achieve slightly lower levels in terms of application of environmental standards and overall businesses.

Global competitors are expected to cooperate with regional players to fully comply with the commonly accepted obligation in each region. Most likely, the do so with either horizontal OR vertical partners, and integrate all figures in management and reporting systems AND vertical.

[Diagram showing different strategies and scenarios involving logistics, intermodalism, and global competitor's strategy]
5.2 Freight Village 4.0 – Schönefelder Kreuz

Who

- Three municipalities/cities, Berlin and Brandenburg, regional cluster and the new „BER“ airport plus the largest Port in Brandenburg
- >2,000 ha, Port area 65,4 ha, 10 km rail track, 8 km road
- Terminal for horizontal handling of trailers to railcars
- Innovative Freight Village in September 2014 established.

Where

- located directly at the East West Autobahn
  15,000 truck bypass daily
- access to canal system and rail network
- new airport BER nearby
- part of the urban node Berlin
- 3 TEN-T corridor urban node:
  North Sea - Baltic; Orient – East Med; Scan – Med
5.3 e-Mobility, regenerative energy, etc.

Generic Solution for Green Terminal / Freight Village
- Production of energy through a virtual powerplant
- Monitoring and control of an adaptive energy management
- Noise management for 24/7 operation

ECO Label for Inland Terminal
- ESI Labels are applied in seaports only but will affect inland terminals; solution for adaptation under development

Handling Equipment and Vehicles
- Pilot 4axle hybrid locomotives exist, but no light and more energy efficient 3axle locomotives yet
- Smart deployment of electric trucks through telematics and central battery buffers

» Port owned electricity network
» Port owned heat network
» Biomass-transformation
» Purification of Natural Gas; Production of Biomethan
6. Conclusion: Networks and cross branch/community cooperation

Integration and Cooperation!

- Joint hands with your neighbor
- Combine strengths, close or bridge gaps
- Enter actively into dialogue with stakeholders, in particular in case of environmental or social concerns
- Develop human resources
- Consider accessibility for staff and clients by public transport
- Cooperate with creative branches and universities
- Consider and anticipate social and society development
- Profit is a must, good corporate governance and citizenship of civil society counts as well
Final slide – possible start for dialogue and further action

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