Changing home-based shopping patterns are leading a new urban freight movement in the Seoul Metropolitan Area

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**Mission:** Develop solutions for urban freight problems that are collaborative and integrative with larger sustainability goals

**Strategy:** four large metro areas (“mega-cities”)
- Los Angeles, New York, Paris, Seoul regions

**Consortium Members**
- METRANS Transportation Center
- University Transportation Research Center
- French Institute of Sciences and Technology in Transport, Development and Networks (IFSTTAR)
- Korea Transport Institute (KOTI)
  - Korea Ministry of Land, Infrastructure and Transportation
  - Seoul Institute, Gyeonggi Institute
  - Inha University
  - CJ Logistics, Lotte Global Logis
Online shopping prospers

- mobile shopping sales growing fast

<table>
<thead>
<tr>
<th>Year</th>
<th>Online Shopping Sales (unit: bil $)</th>
</tr>
</thead>
<tbody>
<tr>
<td>'05</td>
<td>0.9</td>
</tr>
<tr>
<td>'10</td>
<td>2.3</td>
</tr>
<tr>
<td>'15</td>
<td>4.8</td>
</tr>
<tr>
<td>'17</td>
<td>7.0</td>
</tr>
</tbody>
</table>

annually Increased by 18%

Parcel Delivery Service (2018)

- Revenues: $5.67 billion (8.7%↑ from 2017)
- 2.5 billion packages
  - 114.3 packages per household
  - 92.2 packages per economically active person

Data Source: KOILA

retail/finance/logistics integrated (eg. Shinsegae)
목요일 10/10 도착 완료

키스포 아동용 블랭크 트레이닝 팬츠, 17호, 블랙 외 4건
주문상세보기

[포함] 로켓배송 1박스 금 앞(으로 배송완료했습니다.

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월요일 10/14 도착 완료

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주문상세보기

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수요일 10/16 도착 완료

동원참치 라이트스텐다드 + 죽담 용기, 150g, 7개
주문상세보기

[포함] 로켓배송 1박스 금 앞(으로 배송완료했습니다.

금요일 10/11 도착 완료

[신세계TV쇼핑] 셀퓨조진 레이저 썬스크린 100 50ml 1+1
주문상세보기

택배사 CJ 대한통운 1588-1255
송장번호 354293852382
1 box
e-Commerce and Delivery in Korea

GS SHOP
SSG.COM
CJmall
Hmall
NSmall
롯데홈쇼핑

11번가
Gmarket
coupang
TMON
위메프

CJ 대한통운
한진택배
롯데글로벌로지스
로젠택배
우체국택배
e-Commerce and Delivery in Korea

- growing online shopping = increasing packages delivered
- development of parcel delivery services in Korea
- $72.8 billion of online sales, 2.5 billion packages in 2018

![Graph showing online shopping sales and packages delivered over time.]

Data Source: KOSIS, KOILA
Increase rates of online shopping sales and # of parcels delivered

a sharp increase of online purchases of household goods

partly thanks to coupang introduced in 2014?

Data Source: KOSIS, KOILA
Increase in food and beverages, cosmetics, apparel and fashion products, and any other household goods.

However, decrease in the portion of travel and any other ticket reservation services online shopping since 2014.

Data Source: KOSIS
In the past, seasonal fluctuations in parcel delivery volume observed, but now its fluctuation getting smaller while total volume increasing

- seems attributable to items sold online (more daily necessary goods)
- implying parcel carriers to expand their investment to the assets

Monthly volatility in the volume of parcels

<table>
<thead>
<tr>
<th>Year</th>
<th>Maximum to Average</th>
<th>Minimum to Average</th>
<th>Difference between Max &amp; Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>117.34</td>
<td>84.13</td>
<td>33.22</td>
</tr>
<tr>
<td>2010</td>
<td>118.10</td>
<td>89.53</td>
<td>28.57</td>
</tr>
<tr>
<td>2011</td>
<td>116.94</td>
<td>90.08</td>
<td>6.86</td>
</tr>
<tr>
<td>2012</td>
<td>114.90</td>
<td>86.49</td>
<td>8.41</td>
</tr>
<tr>
<td>2013</td>
<td>113.90</td>
<td>87.08</td>
<td>6.82</td>
</tr>
<tr>
<td>2014</td>
<td>119.50</td>
<td>87.65</td>
<td>2.85</td>
</tr>
<tr>
<td>2015</td>
<td>116.17</td>
<td>86.11</td>
<td>10.06</td>
</tr>
<tr>
<td>2016</td>
<td>116.39</td>
<td>88.57</td>
<td>7.82</td>
</tr>
<tr>
<td>2017</td>
<td></td>
<td>88.26</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Data Source: KOILA
New delivery strategies needed

- Challenges: more intense competition & dropping delivery prices
- “Saving transportation costs” is the key
- Major parcel carriers restructuring their network strategies
  - From Single-Hub to Multi-Hub
  - Especially more in the Seoul Metropolitan Area

Volume of parcels and unit price of delivery

Data Source: KOILA
New development of logistics facilities in the city of Seoul

- Logistics Center developed on the idle space of Seoul Metro Train Yard
- Urban Logistics Complex with Fulfilment Centers
  - Gimpo LP
  - Seoul West e-Logis Town
  - Yangjae e-Logis Town
  - Godeok Train Yard LC
  - Seoul
  - LOASIS
  - Urban e-Logistics Town (dense and high rise)
How industry responding: Case Study

**CJ LOGISTICS**
- Ranked as the 1st parcel carrier in Korea, 48.2% of market share
- $1.23$ billion a year, max $6.67$ million packages a day in 2018
  - grown almost fivefold during the last 10 years (0.27 packages in 2008)
  - sharply growing since 2014

# Parcels delivered by CJ LOGISTICS

Data Source: CJ LOGISTICS, KOILA
Market potential

- Monthly volatility in parcel volume has been dropping: around 40% → 30%
- Majority of services needs in the Seoul Metropolitan Area (SMA)

Population
- 25.7 mil in SMA; 49.7% (9.7 mil in city of Seoul)
- Area: 11.3% of country
- 51.7 mil total in Korea

Monthly volatility in the volume of parcels handled by CJ

Data Source: CJ LOGISTICS, KOILA
Network Strategy Changed

- New freight transportation network strategy with multiple hubs
Hubs in the SMA: example of a brand new hub

<Seoul Metropolitan Area>

- Gunpo Hub
- Gonjiam Mega-Hub
- Yongin Hub

CJ Logistics Gonjiam Mega-Hub

Land area: 104,328 sq. m
Construction area: 62,535 sq. m
Total area: 296,098 sq. m

6-story bldg: 2 under-, 4 above-ground
1.72 million boxes handled within 12 hrs

1,236 vehicles can be accommodated

Data Source: CJ LOGISTICS
keep trying to guarantee a high-density service area
- 6 Hub-Terminals
- 7 Local Hub-Terminals (including 4 Consolidation Hubs)
- 280 Sub-Terminals
- 1,800 Agencies and 26,000 Handling Stores
- 18,000+ couriers for last-mile delivery

Geographical distribution of CJ LOGISTICS parcel delivery service agencies

Data Source: CJ LOGISTICS, KOILA
Moving Forward

- collaboration between public and private sectors
  - location
  - consolidation
- new types of division of labor
  - new transportation modes
  - crowdsourcing
- more actively technology applied
KOTI enriches the future by securing harmony among humans, the environment and transport.

감사합니다

Thank you

KOTI : http://www.koti.re.kr