Telematics and SK planet

25th April 2012

Hyungsuk Noh
I. Introduction of SK planet

II. SKP Telematics Business

III. Automaker and Operator Cooperation
    - Embedded and Tethered
    - Contents Delivery Platform
1. Introduction of SK planet

- Carry the history of Korea’s enterprise for the past 50 yrs
- 3rd largest conglomerate in Korea (82nd in Fortune Global 500 of 2011)
- SK’s mission ; “Company that delivers happiness”
- Hynix joined SK group as of March, 2012.

**Global 500**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Company</th>
<th>Revenues ($ millions)</th>
<th>Profits ($ millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>75</td>
<td>Deutsche Telekom</td>
<td>82,074</td>
<td>2,245</td>
</tr>
<tr>
<td>75</td>
<td>Kroger</td>
<td>82,189</td>
<td>1,116</td>
</tr>
<tr>
<td>77</td>
<td>Industrial &amp; Commercial Bank of China</td>
<td>80,501</td>
<td>24,398</td>
</tr>
<tr>
<td>78</td>
<td>Telefónica</td>
<td>80,444</td>
<td>13,496</td>
</tr>
<tr>
<td>79</td>
<td>BMW</td>
<td>80,099</td>
<td>4,262</td>
</tr>
<tr>
<td>80</td>
<td>Procter &amp; Gamble</td>
<td>79,689</td>
<td>12,736</td>
</tr>
<tr>
<td>81</td>
<td>Nippon Life Insurance</td>
<td>78,571</td>
<td>2,631</td>
</tr>
<tr>
<td>82</td>
<td>SK Holdings</td>
<td>78,435</td>
<td>570</td>
</tr>
<tr>
<td>83</td>
<td>EXOR Group</td>
<td>78,123</td>
<td>182</td>
</tr>
<tr>
<td>84</td>
<td>AmerisourceBergen</td>
<td>77,954</td>
<td>637</td>
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<tr>
<td>85</td>
<td>Costco Wholesale</td>
<td>77,946</td>
<td>1,300</td>
</tr>
<tr>
<td>87</td>
<td>Petrobras</td>
<td>75,876</td>
<td>17,479</td>
</tr>
<tr>
<td>87</td>
<td>China Mobile Communications</td>
<td>75,673</td>
<td>9,733</td>
</tr>
</tbody>
</table>

**SK Group**

- Energy/Petrochemical (50% of total revenue)
- Telecom/IT (18% of total revenue)
- Logistics/Services (32% of total revenue)
Leading mobile industry with breakthrough technologies & innovative services

1. Introduction of SK planet

World’s Most Innovative Companies
Ranked 91st
- One of two Telco companies selected (2005)

Winner of “National Customer Satisfaction Index”
- 1st Place for 14 consecutive years (2011)

“Best Employers in Asia”
- Awarded for creative corporate culture (Hewitt Associates & WSJ Asia, 2007)

“Best Asia Telecom Carrier”
- Awarded two consecutive years (Telecom Asia & IDC, 2007)
SK planet’s main biz area was that of SK telecom’s internet based biz unit. To create new value and enhance global competitiveness, SK planet was established as of 1st Oct., 2011 and it is a SK telecom’s affiliated company.

**Purpose**

- Enhance business specialization through efficient allocation of business resources
- Build efficient management with optimal decision-making structure
- Create flexibility quickly to respond changes in market environment

**Business Area**

Generate new business opportunity and profitability by leveraging strong subscriber base in major platform businesses.

- **Telematics**
- **Digital Contents Marketplace**
  - Contents Delivery
  - Media
- **Portal & Commerce**
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2002 marked the introduction of the world’s first phone-based navigation service: Nate Drive. Since then there has been a steady stream of Telematics services that have optimized mobile and in-vehicle terminals.

- World’s first Server-based Phone Navi.
- Consist of Separate Navi module, phone holder, GPS antenna

- Launched Renault Samsung INS300 system

- Compact Type

- Launched Phone-holder integrated model (GPS chip embedded)

- Telematics Phone & Renault INS700

- T map 1.0 & TPEG Device

- GPS Embedded Phone

- T map 1.0

- Changed brand into T map
- Launched Smartphone-based service
- Inaugurated traffic-information providing biz

- Launch T map3.2 (Android-O/S & iOS)
- Launched BlackBox for T map
The connected navigation service, T-map, ranks 1st place in South Korea. The number of subscriber had reached 10 million at the end of 2011.

- **Traffic Information based Route Plan**
  - Calculate route plan based on real-time traffic information
  - Traffic information collected by various channel

- **Route Search with various options**
  - Recent destination / bookmark / alternative route

- **On-line Contents Update**
  - Events, public transportation, Map, POI, etc.

- **Map view**

- **T-map brought into Vehicle**
  - Provide connected navigation service in vehicle
  - Allow drivers the same T-map service with vehicle HMI and larger screen
  - Using smartphone as Internet access device

### Connected Navigation Platform – T-map

<table>
<thead>
<tr>
<th>SKT subscriber</th>
<th>Tmap subscriber</th>
<th>Tmap UV(Annual)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 million</td>
<td>10 million</td>
<td>16 million</td>
</tr>
</tbody>
</table>

**T-Map subscribers**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>1Q11</th>
<th>2Q11</th>
<th>3Q11</th>
<th>4Q11</th>
</tr>
</thead>
<tbody>
<tr>
<td>SKT subscriber</td>
<td>5.5</td>
<td>7.5</td>
<td>9.3</td>
<td>10.9</td>
</tr>
<tr>
<td>Tmap subscriber</td>
<td>50% of Korean Market Share</td>
<td>73% of SKT subscriber</td>
<td>Tmap UV(Annual)</td>
<td></td>
</tr>
</tbody>
</table>
2. SK planet Telematics Business

SK Planet’s MIV solutions provide connectivity, screen sharing and multimedia services.

**RUI (Remote UI) - Mirroring Solution**

- Etc (game, web)
- Dummy LCD
- Car PND
- Video Playing
- Provide the simultaneous screen sharing between smartphone and vehicle. Compatibility with MirrorLink is underdeveloped.

**AppThrough - Smartphone App. Protocol**

- Smartphone
  - App 1
  - App 2
- Head Unit
  - Mash-up App
  - I/F Server
- SKP Interface
- Provide application level connectivity, it serves mash-up functionality from multiple smartphone apps.

**Melon - Online Music Streaming**

- Melon Server Infrastructure
- Music, Video, Language Learning
- On-line music streaming service brought into vehicle.
  - Driver can access his favorite music easily and manage it via web.

**P2C (Phone to Car): Digital Contents Sharing**

- P2C is solution that enables driver to access and play digital contents in his smartphone via vehicle headunit.
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For the CONNECTED CAR, the convergence technology of vehicle hardware platform and service platform is very important.

**3. Cooperation**

**Cooperation Overview**

For the CONNECTED CAR, the convergence technology of vehicle hardware platform and service platform is very important.
Next generation Telematics service, Bluelink* and UVO**, will be available in Korea in 2012. Cooperation between automaker and operator is expected to be increased constantly.

*Bluelink service is provided by Hyundai Motor Company and KT.
**UVO service is provided by Kia Motors and SK telecom.
SK telecom, SK planet and Renault Samsung Motors are jointly working now to bring forward new generation of Telematics services.

**Commercial Vehicle Cooperation**
- available in 2012.

- 3D Navigation: Connected Navigation
- Map Air Update: Wireless Map Update

**Advanced Research Cooperation**
- Jeju Island EV Test bed Project

In Jeju Smart Grid project, SK and Renault Samsung Motors have deployed Advanced EV services including EV Navigation, Tethered and Mirroring solution.

3. Cooperation - Telematics
Various kinds of connectivity solutions: Embedded, Tethering and Mirroring.

- **Embedded Connectivity**
  - Vehicles have their own connectivity module embedded.
  - Example: 2G, 3G, LTE.
  - Provide personalized HMI for driving environment. Connectivity module is fully embedded in vehicle.

- **Tethered Solution**
  - Tethering + Smartphone Services
  - Smartphone provides additional service.
  - Example: Wi-Fi, 3G LTE.

- **Mirroring Solution**
  - Integration
  - Smartphone is coupled with vehicle screen mirroring and control input.

Various kinds of connectivity is considered by operators and automakers from the business point of view.
Service providers and network operators already providing digital contents to the customer. SK planet aims to make presence itself as the leading contents provider in both Korea and overseas market.

Application

- #1 in Korean Android app market, offering 188,000 apps to 10 million users
- Revenues have increased 98% (QoQ)
- Expand into global markets; Taiwan, China and Japan.

Movie, Multimedia

- An on-demand music, video, movie, and TV program provision service that streams content to N-Screen devices
- N-screen media platform with 1 million users (3Q11), 7 months after launch - Houses 10,000 contents (movie, music video, dramas etc.)

Music

- With Melon, subscribers can ubiquitously enjoy over 2.2 million songs with PCs, mobile devices, tablets, smart TVs, and navigation systems.
- Music service with #1 brand recognition and M/S in digital music distribution market for the last three consecutive years

Digital Contents Marketplace for contents distribution
SK telecom and SK planet have been supported Ecosystem of T-store which is SK planet’s contents marketplace, by encouraging 3rd party developers, validating digital contents and promoting customer.

Since in-vehicle environment is changing rapidly and customers want to use up-to-date services in vehicle, Ecosystem owned by Mobile Operator will be able to accelerate in-vehicle application market.
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THANK YOU