PASOLINK
Competitive “MONOZUKURI”

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NEC Wireless Networks Ltd.
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Outline of NEC Wireless Networks
## Organization

<table>
<thead>
<tr>
<th>Corporate Name</th>
<th>NEC Wireless Networks, Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Established</td>
<td>December 1973 (NEC 100%)</td>
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<tr>
<td>President</td>
<td>Motoo Mizumura</td>
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<tr>
<td>Number of Employees</td>
<td>526 (as of December 2007)</td>
</tr>
<tr>
<td>Major Operations</td>
<td>Production of Mobile &amp; wireless telecommunication equipment (Carrier Network BU) Control system terminals, etc. (Social Infrastructure BU)</td>
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</tbody>
</table>
| Certificates Acquired   | - Quality management ISO:9001 In October 1992  
                          | - Environmental management ISO:14001 In October 1997  
                          | - Information security management ISO:27001 In October 2006 |
Major Products

Wireless communication equipment

PASOLINK series

PasoWings (WiMAX)

IDU

ODU

5000S
Backbone microwave communication equipment for overseas markets

Factory computers

Small-footprint Model FC-E21A

ShieldPRO (Robust PC)
Competitive “MONOZUKURI”
PASOLINK Supply Chain

131 countries

Sales  Development  Production preparation  Procurement  Production  Distribution  Repairs Maintenance etc.  Customers

NEC Wireless Networks 

NEC Wireless Networks

Empowered by Innovation
Characteristics of PASOLINK Production

Flexible production based on orders reflecting various customer needs

Characteristics of Wireless Telecommunication Equipment

- Designed for various radio frequency policies in any country or region
- High reliability as network infrastructure

System needs of each customer

Lineup of over 1,000 product types!

Production by BTO

PASOLINK series
Radio frequency
Transmission capacity Interface
Market Requests

- Shorter lead times
- Urgent demand

Asia: 2~4W
Europe: 2~3W
Latin America: 4W
Others: 4W

Customer needs in emergencies 2W

Strengthen competitiveness
Uncover new customers

High-Speed & Flexible Shipping

- High Reliability
- High Quality
- Broad Lineup
- Cost Reduction
Strength of PASOLINK Business

Cope with needs through flexible production based on orders

PASOLINK’s advantages

Quality: Outstanding quality
Cost: Cost reduction exceed falling prices
Delivery: Quick & flexible

Sales/Development/Production
“Trinity” management

Sales Development Production

MONOZUKURI Strength
Production Line Reforms

<As of July 2001>

<As of January 2002>

【Now】

◆ line-length 8m

◆ line-length 25m
History of Improvement of 「MONOZUKURI Strength」

Expand business improving together with MONOZUKURI Strength

① Production line innovation

② Inline automation equipment

③ Development / production collaboration

④ Procurement innovation

Adopted Toyota Production System in 2001

PASOLINK unit production

2001 2002 2003 2004 2005 2006 2007
1. Line Innovation Activity (1)

<PASOLINK ODU Line>

【As of July 2001】

【As of January 2002】

【Now】

General Productivity Improvement by Production Innovation

Flowing

Evolve autonomously everyday

◆ line-length 25m

◆ line-length 8m

As of July 2001

As of January 2002

Now
1. Line Innovation Activity (2)

Build the cost price and quality in line

1. Flowing
   - No-backset smooth work
   - Thoroughly eliminate inefficiencies

2. Mixing
   - Achieve flexible, mixed production

3. Standard Operation
   - Same rhythm, same outcome by everybody

4. Abnormal Stop
   - Stop operation in case of any problem
     → prevent defects from spreading on
2. Introduction of In-line Automated Facilities

～Hands-on activities of manufacturing & PE sections～

- Standardized operations
- Clocklike stream

- Improvement on the second time scale
- Creation by line operators themselves
- Cooperation with special technicians
- Low-cost & small facilities
- Quality enhancement

Small automated facilities for manufacturing & testing
Line Creators: production workers with facility development skills who can design production facilities by themselves.
3. Development/Production Collaboration

- Close collaboration between design engineers and production operators
  - Feedback to designers from line workers
  - Upper design aims for easy manufacturing

- Standardization at design phase focusing on “MONOZUKURI”
  - Line standardization by common platform design
  - Reduction in electron element number etc.

- Front Loading
- Quality enhancement
- Cost reductions exceeding price declines
4. Procurement Innovation

Stable procurement supporting highly mixed BTO production

- High flexibility through close cooperation with suppliers
- Reduction of parts variety
- Just-in time procurement fully utilizing the “Kanban” system
- In-house production of core parts
「Just In Time」 Procurement System

Supplier

Complemental Demand (Order)  
‘Mizusumashi’

Just In Time

Procurement Store

PASOLINK Line

Fill-up as much as used

On time fixed route

Close cooperation with supplier through information sharing
In-house Production of Core Parts

- Core technological PASOLINK part
- Sophisticated manufacturing know-how with fine processing capability

Highly mixed In-house production & stable production
“MONOZUKURI Strength” Continuing Evolution

Sales/Development/Production “Trinity” Management As Industry Frontrunner

- Outstanding Quality
- Cost Competitiveness
- High-Speed Shipping

Self-Directed Evolution Everyday
A Culture of Continuous Improvement is the strength of NEC Wireless Networks

A culture in pursuit of self-directed & continuous improvement

Reaching for exciting new targets together
Empowered by Innovation