Mission & Focused Business Units

Lyngsoe Systems’ mission is to provide logistics solutions designed to significantly improve our customers’ quality of service and competitiveness in the global market.

Postal Solutions  Airport Solutions  Supply Chain Solutions
Business Unit – Supply Chain Solutions

- Track & trace systems for management of transport materials, e.g. roll cages and transport containers
  - The systems give an overview of transport materials, reduce losses and enable objective invoicing
- Product/food traceability
  - The systems streamline and provide overview and traceability in all links of the logistics chain
- Control systems for sorters and process automation
  - The systems increase productivity, reduce and offer savings of manual handling and mishandling

Business Unit – Airport Solutions

- Baggage Handling Solutions
- Passenger Handling Solutions
- Cargo Handling Solutions
- Asset Handling Solutions
- Catering Handling Solutions
Customers all over the World

More than 1100+ system solutions worldwide...

Capabilities

- 10 years experience in development, installation, maintenance and support of the world largest RFID network
  - Large international companies in 60+ countries,
  - 750+ sites (150+ sites inside Airport fence)
- Historical high investment in the last 10 years – more extensive commitment to our existing RFID-customers is made for the future
- RFID infrastructure is customised from a highly standardised platform and mostly requires changes in the web-enabled front-end applications
- LS provides solutions using different RFID technologies
- 10+ years of in depth RFID experience:
  - Own Research and Development Centre
  - Large team of experienced RFID system integrators
  - Hands-on experience for 2 – 4 new RFID sites per week
- World-wide Support
  - Remote systems and operation monitoring
  - 24/7 hotline; service team specialised in remote/on-site support
  - On-site service and installation using local companies
Postal / parcel RFID Systems - a real life world wide application

Postal Logistics Chain – Diagnostic Monitoring
Working with the Postal / Parcel

Collection
- Route Monitoring
- Mailbox emptying
- Volume forecasting
- Key Customers
- Track & Trace
- Proof of Collection

Production
- Process Monitoring
- Work planning
- Sorting & Automation
- Volume forecasting
- Bulk mail
- Track & Trace
- Transport materials
  - Letter trays
  - Roll cages
  - Mailbags

Transport
- Arrival and departure
- Load control
- Consignment
- Volume forecasting
- Load space
- Track & Trace
- Transport materials
  - Trucks
  - Roll Cages
  - Mailbags

Distribution
- Route Monitoring
- Key Customers
- Track & Trace
- Quality of Service
- Proof of Delivery
- Payments

Selected areas

Collection
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- Mailbox emptying
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- Track & Trace
- Proof of Collection

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Distribution
- Route Monitoring
- Quality of Service
- Key Customers
- Track & Trace
- Proof of Delivery
- Payments
Collection: Mailbox emptying

- Automated and objective registration of when a mailbox is emptied
- Identifying possible areas for improvement
- Registration of broken mailboxes
- Planning, follow up and optimization of routes
- Documentation of actual performed service level

Production: Process Monitoring

- Automatic and objective registration of when test items are passed between processes, teams or departments
- Registration where shifts of responsibility takes place
- Identifying spots or interfaces, where processes can be improved
- Optimization of production processes
Transport: Arrival and Departure

- Automatic and objective registration of when vehicle arrives and departs
- Monitoring of ULDs
- Driver statistics
- Fleet Management incl. wear and tear
- Identification of repeated errors and areas with room for improvement
- Integrated transportation and production planning

Transport & Production: Roll Cage Monitoring

- Automatic and objective registration of when roll cages enters and leaves sorting facilities
- Identification of repeated errors and areas with room for improvement
- Pre-warnings of delayed arrivals and increased awareness of departure times
- Downstream Volume forecasting – split into product types
- Consignment, Load Control and Load Space Management
- Integrated transportation and production planning
Automatic Mail quality measurement - AMQM™ Main Objectives

- AMQM™ for measuring and documenting quality of service in all parts of the postal logistics chain by the use of RFID technology based on UN / UPU standards for secure world wide performance and deployment.

- Objective measurements are achieved by sending letters containing RFID tags. In this way, automatic registrations are made wherever readers are installed.

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**Existing Sites:**

- Number of countries: 50
- Total no. of sites: 780+

**Sites in progress:**

- Number of countries: 10

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RFID data turns into information in the Quality of Service Monitor

...designed to significantly improve your quality of service and competitiveness...

- Built on experience and know-how acquired by developing and delivering AMQM RFID solutions in more than 50 countries
- Developed together with top Postal performers in Quality of Service
- Constantly improved by customer guided value adding functions

QSM™

The Quality of Service Monitor - QSM™

The ideal tool to turn RFID tag registrations into information that enables constant improvement of the postal logistic chain.

- Organise and present Quality data
- Graphical presentation in WEB-based user interface
- Combining E2E information with AMQM registrations
- Overview and in-depth analysis of Quality data
- Dynamic reports

International and national service performance incentive programs and agreements

- Postage income division according to actual performance as reported in the QSM™
- Bonus payments based on achieved performance targets as reported in the QSM™

RFID reads

QSM™

Decision making
Average Delivery Days – since AMQM introduction in 1995

AMQM<sup>TM</sup> - improving the Quality of International Mail

AVERAGE DELIVERY DAYS


2.9 2.7 2.7 2.6 2.3 2.3 2.2 2.2 2.2 2.2

Catellae<sup>TM</sup> Real-time Data Collection Platform

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Catellae<sup>TM</sup> LIPAX
Catellae<sup>TM</sup> LMS
Catellae<sup>TM</sup> LSR
Catellae<sup>TM</sup> LSS
Catellae<sup>TM</sup> Logistics

AIRPORT
- ASA, Drones
- Sales
- ELF
- DBS
- COT
- BIS
- YSC
- BBS
- IBS
- ADOE
- TAMS
- US

SUPPLY CHAIN
- SAP
- Novex
- J.D. Edwards
- Base
- Ursus
- Microsoft
- CCH
- CCM
- Catellae<sup>TM</sup> Wireless
- Catellae<sup>TM</sup> Food Transac.

POSTAL / COBIER
- CCM
- TAMS/2
- CMIS

BARCODE
- Label sorting machines
- Parcel sorting machines
- Asset management
- Accounting
- IPR

RFID
- Roll cage management
- RFID sensor
- EPC Global
- HCC

BARCODES
- Wireless handheld
- Barcodes
- Radio Frequency

RFID
- Wireless RFID
- Near Field Communication
- NFC

MANUFACTURING
- Machine controller
- Operator feedback
- Inventory control
- Mobile

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In 2005 the industry lost in the region of $2.5 billion on mishandled baggage when you take into account the costs involved in reuniting the delayed baggage with its owner which, happily, is the case over 99% of the time. This year we will reach the two billion passenger landmark which on current trends will translate into 30 million pieces of mishandled baggage.
A few numbers:

- 41 million passengers capacity (2005)
- 20 million departure baggage (2005)
- 96 gates
- 700 flights per day
- 55,000 staff work for over 240 organisations
Catellae™ RFID Middleware

**Inductions and Central Transfer Stations**
- Barcode scanner
- PLC Sort Controller
- Bagage Handling System

**Manual Coding Stations**
- Barcode scanner
- Operator Feedback Unit
- Voice Recognition Software

**Laterals and Carousels**
- Barcode scanner
- Operator Feedback Unit

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Catellae™ RFID Middleware Stations in Hong Kong

- Catellae™ RFID Middleware – on Linux and Windows XP
- A total of 208 Catellae RFID Middleware Stations

**RFID Middleware Stations and Interfaces:**
- **28 Primary and Secondary Inductions**
  - Barcode scanner
  - PLC Sort Controller
  - Bagage Handling System
- **12 Manual Coding Stations**
  - Manual Coding Station
  - Operator Feedback Unit
  - Voice Recognition Software
- **160 Laterals**
  - Bagage Mgt. Host
- **8 Carousels**
  - Bagage Mgt. Host
Why bring in Lyngsoe Systems?

RFID solution on baggage items provides HKIA with

- **Reduced** number of baggage tag read errors since RFID tags do not require contact or direct line-of-sight, as is the case with current barcode system – up to 40%
- **Delay expansions** at the baggage handling system as the load is reduced by higher read rate
- **Reduced manual labor** at load stations – automatic baggage reconciliation (= ABRS)
- **Reduced manual handling labor costs** at all Manual Handling Stations (MES, Lost baggage, etc.)
- **Reduced maintenance costs** (barcode systems cost, adjustment and cleaning)
- **Improved customer service** by reducing delayed and mishandled baggage
- **Increased passenger security** by ensuring more positive passenger / bag matches
- In short, it means a reduction in the numbers of lost and short shipment bags, consequently providing substantial cost savings and increased passenger satisfaction
Supplier – System Integrator - Partner!

- Process knowledge in the postal / supply chain / aviation
- Data capture of passive/active/semiactive tags & barcodes & HHT
- Web-enabling data / hosting data
- Interfacing to multiple airport systems
- Looking across the airport / airlines ... – share data
Why tell you about Baggage Handling Systems?

RFID?

WHY DO NO MORE JOIN RFID?

ROI?
Strategic focus?
Partnering?
Early Adopters?
Pilots - Knowledge?
Plug-n-play?
Simplicity?
Right place – right time – make it happen!
Thanks for listening

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