First class delivery with an economy ticket

Leverage intelligent mobile software tools to win the last mile delivery race

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The takeaways

1 The last mile delivery concept is rather recent and brings new opportunities and challenges. When done right, the last mile is a tremendous opportunity for many retailers and logistics companies.

2 Cost-efficiency and new requirements, from both consumers and retailers, are the foremost challenges facing efficient last mile delivery.

3 In setting out future last mile delivery processes, considerable potential lies in leverage mechanisms such as process optimization, partnerships and analytics.

4 Intelligent mobile software tools offer efficient ways of managing and overcoming many of the challenges facing last mile delivery.

1 Introduction

The intention behind this document is to provide actors in the last mile delivery segment with ideas regarding business opportunities, and to explore options for overcoming some of the foremost challenges.

The whole last mile delivery concept is rather new and has largely been spurred by the needs of e-commerce, which is expanding rapidly. This brings new opportunities and new challenges, requiring that we consider new solutions. When done right, however, the last mile is a tremendous opportunity for many retailers and logistics companies.

If we think about it, most of us want our packets and parcels delivered in the best possible manner. You could say we want first-class delivery. On the other hand, very few are prepared to pay a premium. We want to have our cake and eat it too. First-class delivery with a budget price tag would be the preferred option.

This document first introduces the concept of last mile delivery before throwing light on certain key challenges and possible solutions. Finally, it outlines several concreate proposals on how to leverage intelligent mobile software tools.
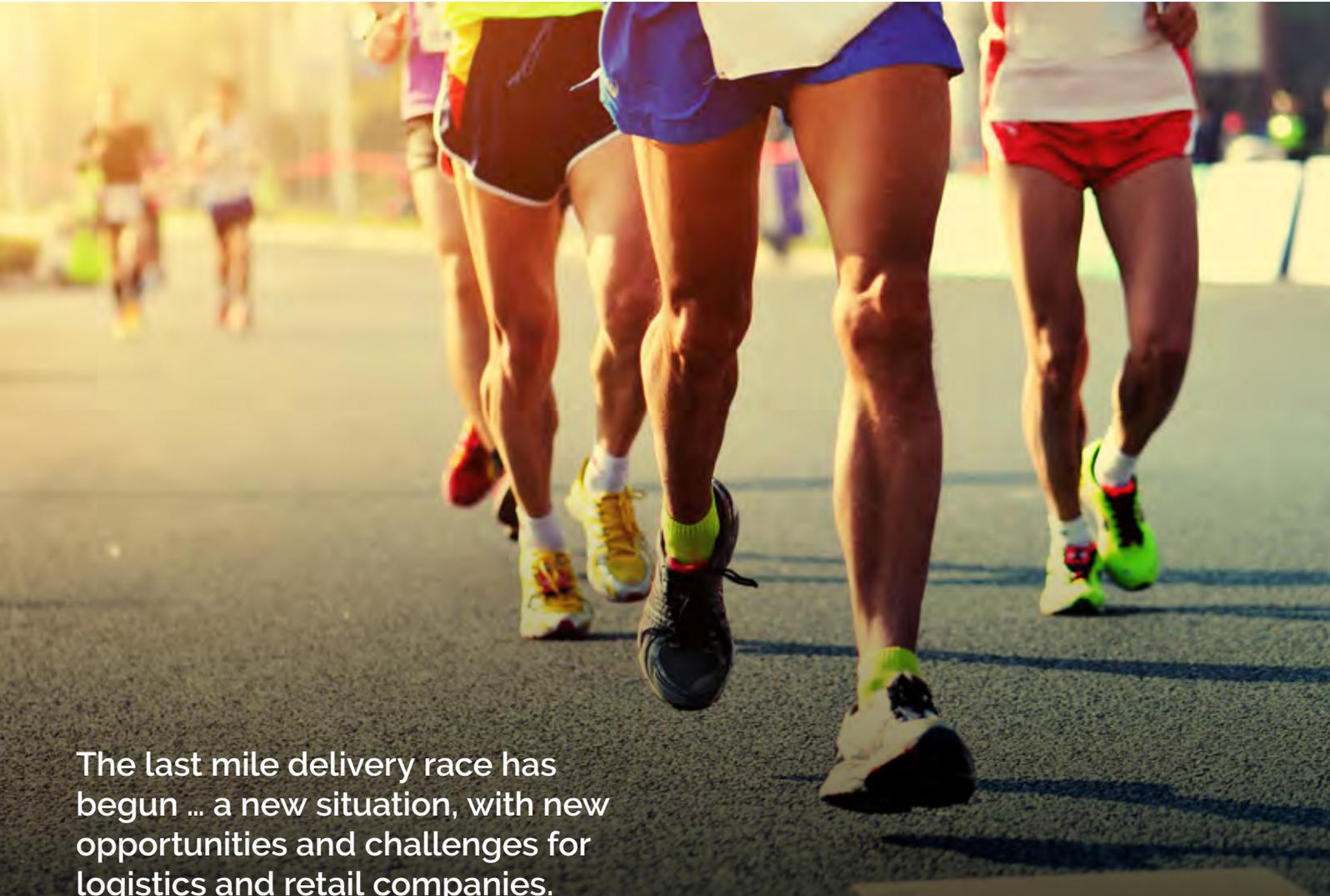
The last mile delivery race has begun ... a new situation, with new opportunities and challenges for logistics and retail companies.

2 Last mile delivery

Last mile delivery is the process of transporting goods (often packages or parcels) from a hub port or depot to its destination. In general, transporting goods via freight rail networks and container ships is often the most efficient and cost- effective manner of shipping. However, when goods arrive at a high-capacity freight station or port, they must then be transported to their final destination. This last leg of the supply chain is often less efficient, comprising of 30-50% of the total transport cost.

The rapid growth of online shopping and e-commerce in many countries has increased the demand for last mile delivery (in the US by 7-10% annually). At the same time, the demands on last mile delivery have also increased significantly. One significant reason is that most consumers are usually away from home when deliveries are made. Unattended deliveries have become one of the most significant issues among many of the traditional delivery companies.

Science has shown that the delivery of a product has a high impact on the consumer's customer experience. This makes last mile delivery an important competitive factor for online shopping enterprises. A great delivery experience often enhances customer loyalty and consequently increases sale. If, on the other hand, retailers fail to meet customer expectations with a delivery, it is highly unlikely that consumers will give them a second chance. Several research reports stress that on-time delivery often results in repeat purchases. Also, most online shoppers are likely to select the retailer they believe can provide an exact delivery date.

Due to rapidly rising demand for last mile delivery services and the challenges in meeting cost and quality requirements, we expect to see a great deal of innovation and disruptive business models in the future.

The last mile delivery market is expected to grow exponentially over the next few years. Research suggests that, by 2020, more than 50 billion objects will be connected to the Internet, presenting an immense USD 1.9 trillion opportunity in logistics.

3 Top challenges

The e-Commerce revolution has put a lot of the "traditional" supply chain on its head. This including, precise delivery time windows, increased customer expectations as well as stringest cost-control. Described below are some of the top challenges facing the segment.

▸ Cost per stop
▸ Requirements from retail
▸ Recipients' expectations
▸ Fast changing environment

Cost per stop

While the demand for last mile delivery is increasing rapidly (as a consequence of the increase in e-commerce), willingness to pay is not matching pace. On the one hand, the last mile delivery process is very costly with multiple products, many stops, customized processes and advanced deviation handling. On the other hand, many consumers expect or require low-cost or even free delivery. This is of course a difficult equation, with both increasing costs and decreasing payment willingness. However, the market is fiercely competitive and actors not fulfilling the cost-requirement clearly risk going out of business.

Requirements from retail

One of the effects of online shopping is that it is easy for consumers to compare products and prices. Most information is transparent on Internet. A consequence of this is that differentiation on delivery terms and quality becomes more important for retailers. Retailers often want to be able to offer several attractive delivery options to their customers. In many cases, this means they require comprehensive customizations from their logistics suppliers. Advanced customizations are often quite contradictory to being able to perform a highly optimized production process (like a factory). Flexibility versus cost-efficiency is a clear dilemma in the last mile delivery process.

Recipients' expectations

Low delivery cost is not the only thing that is important to consumers. The recipients' requirements on customer experience are constantly increasing. This can include delivery within narrow and precise time windows, convenient ETA notification, options for consumers to change their delivery address at the last moment, and simplified communication with the customer. When it comes to communication, consumers want to be able to use their preferred mode of communication method – phone, social media, e-mail, etc.

A large part of this challenge is, of course, related to cost. It is difficult to meet all new requirements simultaneously while applying a very lean cost-structure. In some cases it is not possible to meet these requirements at all, regardless of cost, due to structural limitations (business processes, assets, politics, etc.).

Naturally, the option of not meeting consumers' requirements is one alternative. However, this will increase the risk of dissatisfied customers who are unlikely to give you a second chance.

Fast-changing environment

Our environment, including the business community and society in general, is changing faster than ever. Consequently, it is both risky and difficult to build a well-designed last mile delivery production machine optimized to the current situation. Also, day-to-day operation is cumbersome. This entails quickly changing routes, drivers, consignments, vehicles or logistics partners. With a rigid business structure, it is not possible to adapt fast enough, which decreases competitiveness.

4 What can be done?

Last mile delivery is a complex problem and there is no single silver bullet with which to address the related challenges. The process involves several aspects, challenges and many potential solutions. In this document, the aim is to present some key ideas and explore a few of the options to be considered. The following address some of the foremost challenges:

- Process optimization
- Partnership
- Re-define the driver's role
- Data analytics

■ Optimizing each step of the process

An obvious path to improvement is cutting out unnecessary steps and optimizing the business process. Of course, this notion is not new. Fredrik Taylor described the concept in his book "The Principles of Scientific Management" back in 1911. A suboptimal process will never deliver the most efficient result possible. What process optimization can bring you is a way of reducing the money, time and resources spent on a process, leading to better business results. Specifically, optimization of the last mile delivery process is about reducing complexity, automation/digitization and certainly minimizing potentially highly costly faults.

■ Leveraging partnership and optimizing asset utilization

If you lack the required strength in-house, perhaps it can be found outside your own organization. Leveraging partnerships and sharing resources are two ways of meeting new requirements presented by last mile delivery. The growing importance of the last mile has attracted the attention of innovative companies, including some with sharing economy models, like that applied by Uber.

The important thing, of course, is to build a flexible production machine that decouples assets (such as the driver, car, route, etc.) from the consignment. It must ensure that the delivery is fully tracked regardless of the forwarding mechanism.

■ Utilizing the driver's capabilities

One opportunity, of course, is to remove complexity by letting a digital system assume some of the driver's functions. For example, by using a digital device to scan bar codes when loading and unloading the van, manual tracking of goods can be eliminated. While many tasks can be removed from the driver, others can be introduced. With the help of digital tools, drivers could, for example, improve the handling of returns and the customer experience. The tool could, for example, provide new channels for customer communication or document handling (for example, maintaining a power of attorney on the fly).

■ Harness your data

Data gathered from the last mile delivery process can open up opportunities for valuable insights. With correct information, the process, assets and resources can be optimized. Additionally, retailers that treat the last mile as a data collection opportunity can gain valuable insights about their customers' preferences, their reactions to products, potential problems and promising areas for future growth. The data can also be used to improve precision in accuracy of delivery and forecasting demand.

Many cases can be presented showing the usefulness of leveraging analytical data. Two basic reasons are smart decision-making and change alerts. The contribution of analytics is to turn data into useful information. Sometimes, visualization methods, correlations or trend plotting can lead to new insights. In addition to many analytical tools being of use in the intelligent mobile software system, data can also be post-processed in external business intelligence systems.

5 Intelligent Mobile tools

Leveraging intelligent mobile software tools is one effective way that many of the actors in the last mile delivery industry has taken. This type of tool provides many features that can be used for building your last mile delivery production. In this document, we highlight a few key features with significant impact.

- ▶ Guided workflows
- ▶ Route optimization
- ▶ Role-based system
- ▶ Real-time ePoD and deviation reporting
- ▶ Web based analysis and change tools
- ▶ Simplifying and optimizing each step of the process
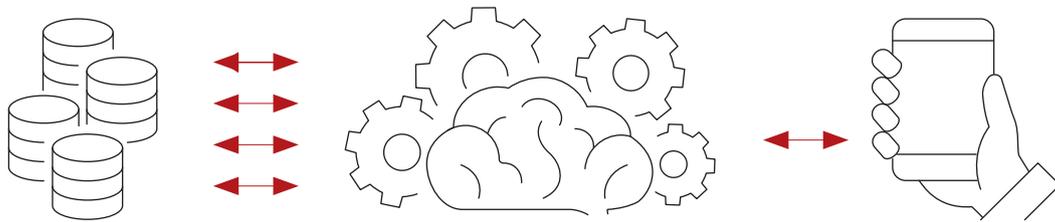
Guided workflows

Guided workflow is a good method for securing quality, simplifying handling and optimizing execution. In practice, it entails the next step in the process being determined by reference data or business rules. Each step or activity is shown with an intuitive, visual user interface. The application guides the user through the process, minimizing the number of clicks.

The workflow guides in the device make it easy for drivers to complete their tasks. They simply scan the packages to be loaded onto the truck and the next work step is determined by the reference date or business rules.

As the last mile delivery mobile application is a frequently-used, mission-critical tool, it requires that the application be simple, intuitive and easy to use. This implies a simple and intuitive graphical user interface that requires minimal training.

Important workflow steps can form individually-detailed object instructions that help users achieve their tasks. For example, a detailed object instruction might tell you how to unpack and replenish specific goods on a specific day.

A key point is to efficiently track and trace the goods – even when changes occur. Drivers, trucks and warehouses must be accountable and "changeable" throughout the delivery chain. Drivers can become sick and trucks can break down, so the tools needed to quickly arrange replacements must be part of the process.

The system simplifies distribution from the back-end to the drivers' mobile device. As orders are located within the system, it is easy to shift between drivers and vehicles.

◼ Route optimization

Timely delivery is fundamental for last mile delivery. Imagine a fruit shop opening in the morning with empty shelves. The economics of small consignments and many minor stops does not permit anything other than an optimized route. The supplier should also simplify for the retail store by offering predictable delivery windows. Naturally, fulfilling service level agreements is essential in developing a prosperous collaboration between the supplier and the retailer. The process must also offer flexibility when ad hoc jobs appear and existing routes must be altered.

With advanced route optimization, both accurate time windows and optimized routes can be achieved. The software can take several input parameters into account when planning, including bridge heights and road restrictions. Additional fleet management tools can be used to simplify road tolls, parking costs, and other costs – and to associate them with the relevant customer order.

The results can be displayed in a navigation tool that helps the driver achieve the most economic, safe and ecological driving possible.

◼ Role-based system provides easy changes

A role-based system is a way of decoupling physical system assets from one another.

The benefit is increased flexibility. In the last mile delivery system, this makes it is easy to change the route, driver, vehicle or partner.

The system leverages maps, communication tools and instructions. This makes it possible to manage routes and jobs and provide status, causes and ETA. This enables optimization of execution.

◼ Real-time ePoD and deviation reporting

Traditionally, the purpose of the acceptance signature was solely to verify delivery. With the advanced capabilities of today's mobile devices, logistics companies can leverage solutions that now meet customers' endlessly changing delivery expectations.

Using the GPS, sign-on-glass, camera and barcode scanning capabilities that already exist in mobile devices, mobile workforces can provide the real-time status and delivery confirmation demanded by today's consumers. In addition, there are many benefits that an electronic proof of delivery solution provides that can significantly impact the key performance indicators in all logistics company.

◼ Web-based analysis and change tools

Web-based analysis and change tools optimize driver-to-office communications.

Many cases can be presented showing the usefulness of leveraging analytical data. Smart decision-making and change alerts are two basic reasons. The contribution of analytics is to turn data into useful information. Sometimes, visualization methods, correlations or trend plotting can lead to new insights. Besides using several analytical tools in the intelligent mobile software system, data can also be post-processed in external business intelligence systems.

■ Simplifying and optimizing each step of the process

When we look at the whole last mile delivery process, from the dispatch of the package to the post-analytics, we discover that we can leverage mobile software tools in each of the steps.
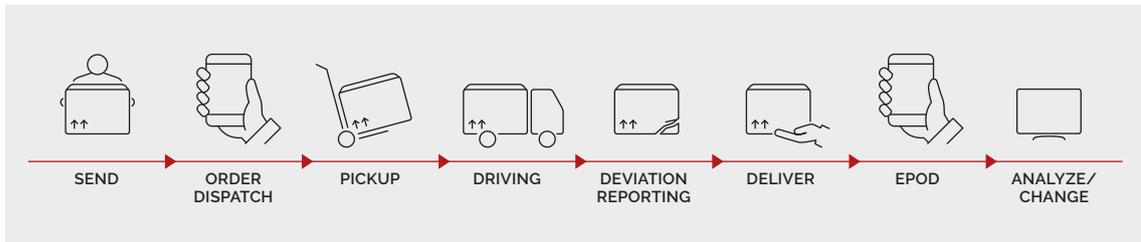
Order dispatch

The system simplifies distribution from the back-end to the drivers' mobile device. As orders are located within the software system, it is easy to shift between drivers and vehicles.

Pickup/loading

The workflow guides in the software makes it easy for drivers to complete their tasks. They simply scan the packages to be loaded onto the truck and the next work step is determined by the reference date or business rules.

Driving

The system leverages maps, communication tools and instructions. This makes it possible to manage routes and jobs and provide status, causes and ETA. This enables optimization of execution.

Deviation reporting

Sometimes things do not work out as planned. The tool offers simplified reporting, reducing the time spent on deviations. Photos, free text and pre-defined menus help in completing the report to provide real-time feedback and situation reporting.

Delivery

When it is time to hand over or deliver to recipients, the process can be smooth thanks to guided workflows, scanning and electronic proof of delivery. This provides instant reporting and faster invoicing.

ePOD

Electronic proof of delivery (ePoD) provides instant reporting and faster invoicing.

Analyze and change

Web-based tools offer planners and team managers the possibility of filtering specific events, observing real-time positions and historical routes. It is easy to find specific jobs and communicate with drivers.
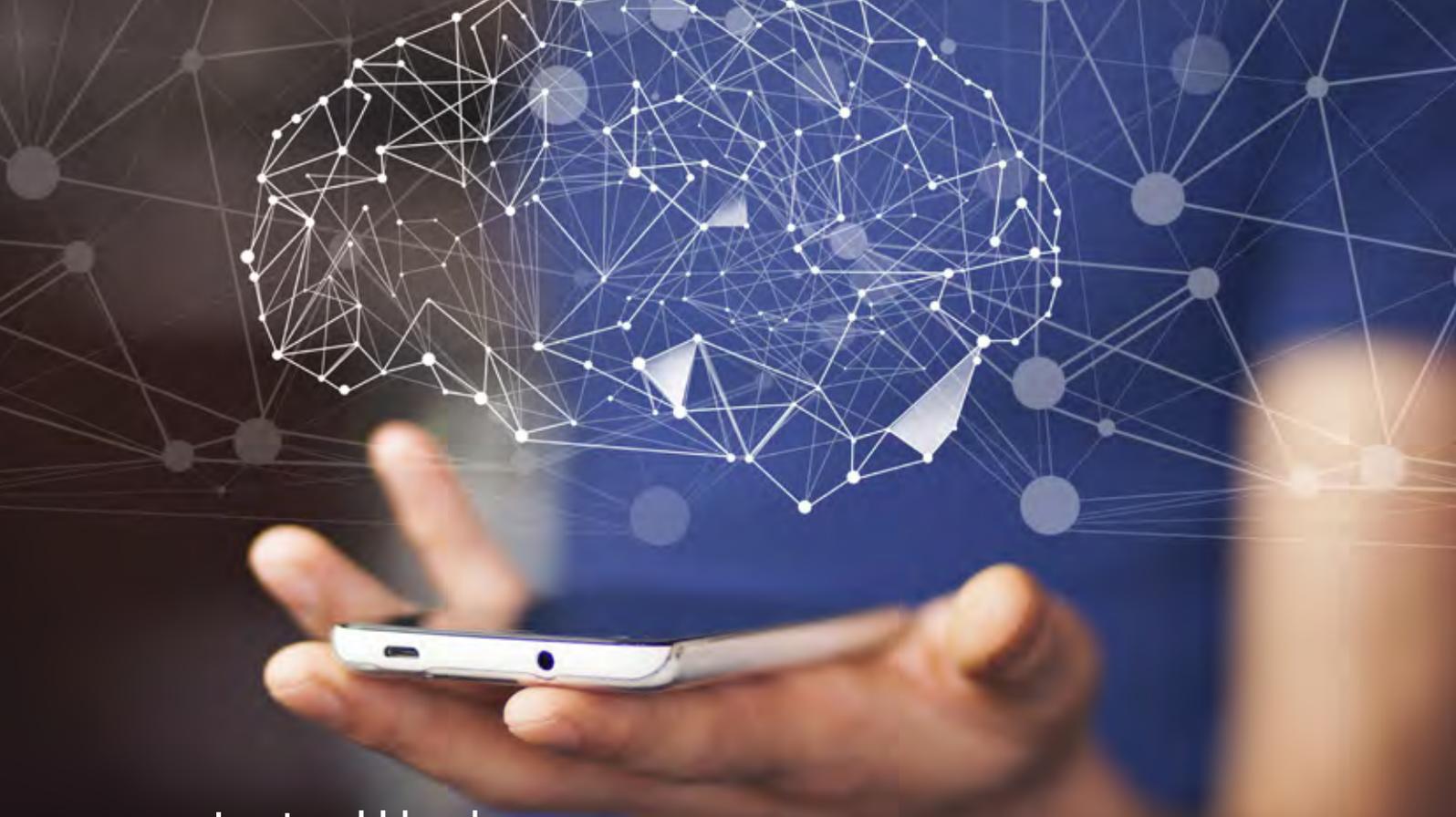
Intelligize your mobile workflows!

About PocketMobile

PocketMobile is the leading supplier of intelligent mobile workflow solutions for companies with field personnel. Our target groups are companies active within postal services & logistics, security & surveillance, and field services.

PreCom is our solution, a scalable mobility platform that is optimized to fit our customer's business procedures, but still based on a standard system. PreCom was built for complex, business-critical procedures with high requirements on adaptability, usability and integration with a variety of ERP and support systems. Every day, we provide many businesses and over 100,000 users with a powerful mobile tool that simplifies work procedures, reduces administration and boosts productivity.

Our reference customers include global companies such as Royal Mail, New Zealand Post, Schenker, G4S, Securitas, DHL, DSB, DSV, Volvo and ElTel. Founded in 2000, PocketMobile has its head office in Stockholm, Sweden, a development center in Sri Lanka, and an international network of implementation partners.

PocketMobile is a Business Unit in the Field Service Management division of Trimble Navigation Ltd. (NASDAQ:TRMB). Trimble applies technology to make field and mobile workers in businesses and government significantly more productive. Founded in 1978, Trimble is headquartered in Sunnyvale, California, USA.

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