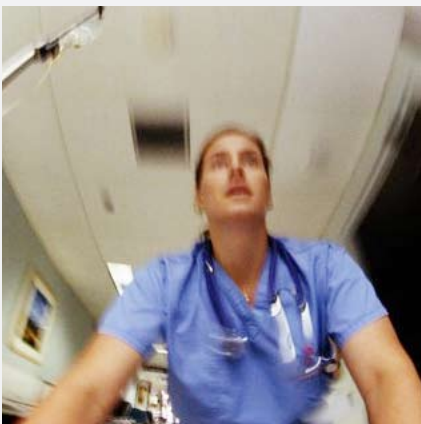




2008  
ANNUAL REPORT



5 MIN  
Every fifth minute someone in Great Britain suffers from a stroke



Accurate  
treatment  
in time



# Ortivus way forward - Our strategic choices

Ortivus is a leader in supporting healthcare professionals and emergency services to make accurate decisions so that they in turn can help people to get the right care, at the right time, in the right place.

## KNOW-HOW AND CUSTOMER BENEFIT

Ortivus provides unique solutions by combining expert know-how of wireless technology, IT and medical technology with clinical expertise. Ortivus' solutions ensure that the patient has immediate access to the right medical treatment and expertise throughout the entire healthcare process. This results in better medical outcomes as well as in improved efficiency throughout the whole healthcare system.

## FOCUS MEANS CHOOSING CERTAIN AREAS

Ortivus is working on solutions for decision-making and documentation support and monitoring for the ambulance service and for cardiovascular monitoring. The focus is on

telemetry and the integration of its solutions with other systems.

Our solutions in North America are principally directed towards the prehospital Emergency Medical Services, including solutions to support the ambulance organisations in the invoicing of their services.

## BUSINESS MODEL FOR LONGEVITY

Ortivus is working with models for service and support and models for software upgrades that provide the customer with long term solutions and provide Ortivus with a secure income.

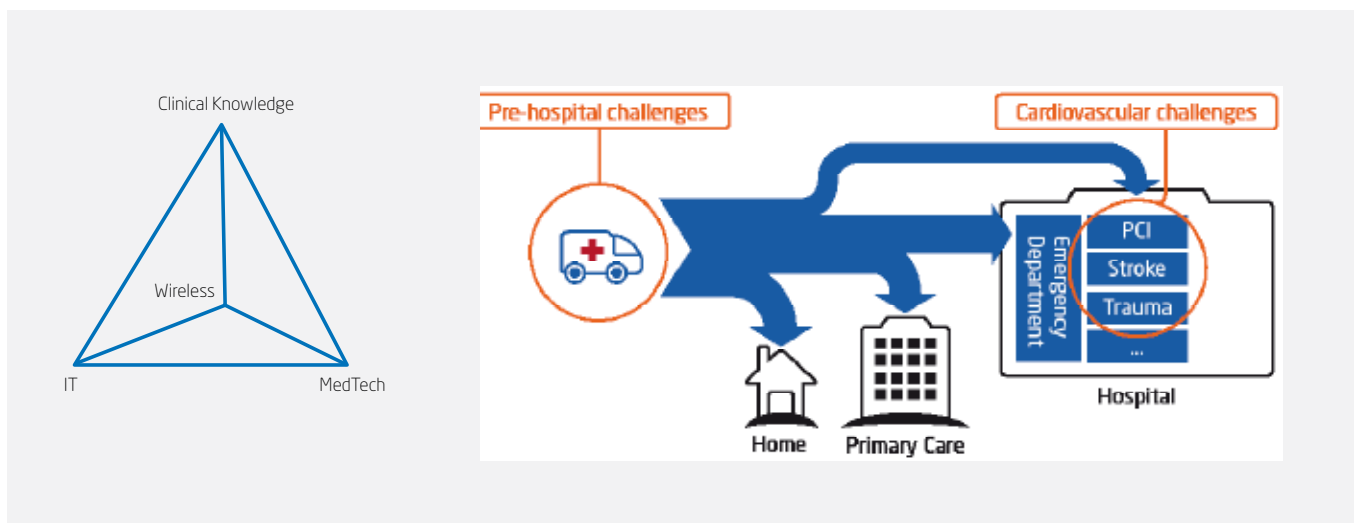
## MEDICAL TECHNOLOGY REQUIREMENTS NOW ALSO FOR IT SOLUTIONS

Ortivus has decided to use its experience of producing CE marked medical technology products

in the production of patient records which meet the strict regulatory requirements. The new requirements from the EU exist to improve patient safety and Ortivus is well prepared for them.

## HEALTHCARE IS COOPERATING - ORTIVUS IS PARTICIPATING

The challenge of constructing clinical pathways and instituting more efficient work practices has begun in many hospitals, ambulance organisations and county councils. Ortivus is working to integrate existing systems with our own solutions, the aim being to increase the efficiency of the healthcare providers.



# TRENDS CHALLENGES SOLUTIONS



#### **MEDICAL OUTCOME**

**How care processes and best practice secures accurate treatment and recovery.**

#### **PATIENT SAFETY**

**How clinical processes and state of the art technology secures the patient's accurate and documented treatment and integrity.**

#### **EFFICIENCY**

**How accurate care links clinical and administrative sub processes and delivers the best possible effect of every investment.**

Healthcare around the world faces an enormous economic challenge



The number of elderly people is increasing in both relative and absolute terms

The number of patients with multiple illnesses is increasing

The number of stroke patients is increasing

The cost of healthcare is increasing

And...

- High cost awareness among all stakeholders
- Focus on preventative care and clinical pathways
- Fewer people available to provide care to increasingly more people in need of it
- Focus on quality of care, patient safety and integrity
- Heart conditions and strokes – increasingly common causes of death
- An increasing need to provide care across borders – we move and travel more
- Increased need for integration and cooperation between different stakeholders



Read more about our solutions on [www.ortivus.com](http://www.ortivus.com)

# Major healthcare challenges

Each year medical advances produce developments in healthcare. Despite this, healthcare is facing major economic limitations throughout the world - a challenge that is increasing every day.



## HERE ARE SOME OF THE LEADING TRENDS

- We have an accelerating population growth with a continually increasing average age
- Cardiovascular disease including strokes is the most common cause of death among elderly people
- The number of patients with multiple illnesses is increasing
- The cost of healthcare is increasing
- Increased cost awareness among all stakeholders
- Increased demand from patients for safety, quality of care and integrity
- Focus on efficient chains of care and systems integration

In a future scenario we may see the population being affected by the same types of illnesses as today, but that the number of patients will increase as the population increases. Average age climbs and life expectancy rises.

The demographic structure means that fewer people must bear the cost of care for ever more patients, a situation which presents the healthcare systems around the world with a massive resource problem.

## EFFICIENT PROCESSES

Efficient processes that pave the way for the proper use of each investment to give the optimum medical outcomes has become the undisputed "must have".

The consequences of cardiovascular illnesses as a whole, including stroke patients, will take up more and more resources.

In the western world 2 per cent of the population already suffer from some form of chronic heart condition.

There are now as many patients dying from heart attacks as patients who die from cancer.

In the area of cardiovascular diseases we have also seen the development of different types of therapy. Rapid interventions in the acute phase, with early interventions such as "balloon inflation" PCI, have shown significantly improved medical outcomes and lives have been saved.

Another important patient group is that of stroke patients. In Sweden alone, with a population of 9 million people, 30 000 people suffer from a stroke every year. 6 000 die and 10 000 become dependent on some form of care. Altogether the treatment and care of stroke patients in Sweden costs 12 billion SEK per year.

Problems associated with the treatment greatly resemble those for heart patients.

As many as 80 per cent of stroke patient are struck by ischemic stroke, i.e. an infarction. Rapid diagnosis and rapid treatment are decisive for good medical outcomes. The majority of patients will be given drugs for clot unclogging, while the remaining 20 per cent have become ill through bleeding, meaning that incorrect therapy would have devastating results.

### Efficient selection

Efficient selection and assessment of patients in the acute phase is becoming a pre-condition of high quality care and patient safety. A large amount of resources and costs can be saved by ensuring that the patient is taken to the right

treatment centre and that the clinical pathway is efficient.

The use of IT and telecommunications provides significant benefits in the acute phase for the whole clinical pathway from ambulance to hospital. This does not only apply to heart and stroke patients but also to trauma patients.

Economic restrictions in combination with the increased possibility of providing good treatment to ever larger patient groups is leading to new and increased efforts to make the healthcare process more efficient.

Treatment of patients with cardiovascular symptoms is naturally in focus.

Efficient interventions in the prehospital phase is another area of focus, economising with limited resources for an expanding healthcare service.

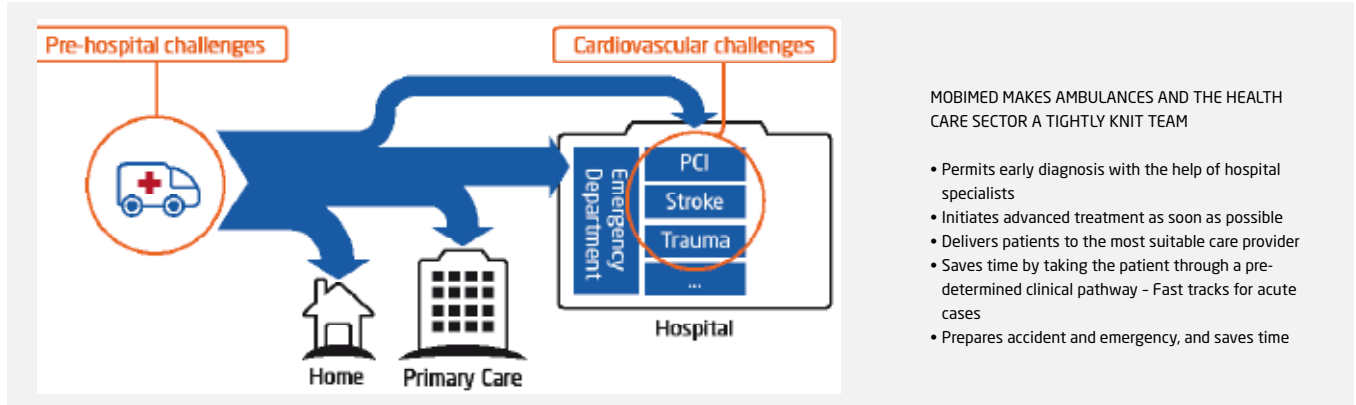
We also see an increased effort to improve patient safety. The praxis of basing care interventions on documented research results is becoming increasingly accepted around the world. Regulation is making this into a requirement. This systematic documentation can lead to continuous evaluation and improved treatment.

## PATIENT SAFETY

Patient safety is an area of focus for healthcare providers. This increased awareness puts new and increased demands on documentation and record management.

The major challenges that the healthcare services are facing will require constant development and improvement in order to achieve better medical outcomes, increased patient safety and increased efficiency at every stage of the clinical pathway.

# Ortivirus solutions...



MOBIMED MAKES AMBULANCES AND THE HEALTH CARE SECTOR A TIGHTLY KNIT TEAM

- Permits early diagnosis with the help of hospital specialists
- Initiates advanced treatment as soon as possible
- Delivers patients to the most suitable care provider
- Saves time by taking the patient through a pre-determined clinical pathway - Fast tracks for acute cases
- Prepares accident and emergency, and saves time

## Prehospital

Ortibus MobiMed provides solutions for the linking of the clinical pathway with the clinical expertise in the hospital. This is an efficient way to give the patient access to the full scope of clinical expertise from the moment they first come in contact with the healthcare service, i.e. when the ambulance team reaches the patient.

### Decision making support

Through the use of IT based solutions and wireless communication, patient information and observation data can be continuously transferred from the ambulance to the specialists in the relevant care unit. This provides decision-making support for immediate treatment, earlier diagnosis and the opportunity to prepare the patient for the next care provider.

### Early treatment unit decisions

Quick action is often decisive for the acute patient.

The hospital's specialists are in contact with

the ambulance, which makes it possible to direct the patient to the correct care unit. Research in Great Britain shows that Accident and Emergency is the correct place for only 50 per cent of patients who arrive there. It is fatiguing for the patient to arrive at Accident and Emergency needlessly and it leads to widespread waste of resources.

### The logbook

Ortibus monitoring and automatic documentation of the patient right from the start of the ambulance journey ensures reliable documentation through the clinical pathway. This is an increasingly common requirement from patients as well as national regulators.

In this way Ortibus MobiMed solutions are able to improve medical outcomes, increase patient safety and provide increased efficiency throughout the clinical pathway.

It is becoming more and more common that recommended care measures are strengthened by means of documentation. This is gradually becoming more controlled by laws and regulations.



### IMPROVED MEDICAL OUTCOMES

- Securing adherence to guidelines and protocols
- Bringing the hospital resources out to the patient
- Shortening time to correct diagnosis
- Improved integration in the healthcare chain

### PATIENT SAFETY

- Improved observance of legal requirements
- Securing adherence to legal requirements
- Accurate documentation following the patient
- Implementing Decision Support/Best Practice/Guidelines
- Access to right clinical knowhow and information in time

### INCREASED EFFICIENCY

- Clinical Pathways and Fast Tracks
- Pre-hospital triaging and early decision making
- Patient handled at the right care level

...increases efficiency and improves health care outcomes

North America

**Ortivus' activities in North America i.e. the United States and Canada are concentrated to two areas of the market for Emergency Services, the ambulance service, i.e. Emergency Medical Services (EMS) and Police & Fire.**

Sales are completely dominated by the ambulance side and products such as Billing, ePCR and CAD/AVL.

Read more at [www.ortivusna.com](http://www.ortivusna.com)

Increased efficiency requirements, as those seen in Europe, place ever higher demands for collaboration between various ambulance organisations, but also with other "blue light" institutions, such as the police. This, along with requirements for coordination at the federal/regional and national levels, means

that solutions that support reporting and documentation between institutions are having an even greater impact. Ortivus, with over two decades of experience, is well positioned for the future.

Ambulance healthcare is a market characterised by a large number of small ambulance companies in private or public ownership. They are commissioned by hospitals or, more often, insurance companies. Both types of companies often purchase invoicing services. The police and fire services are motivated by the need to reduce costs and are looking for increased efficiency.

Ortivus North America, with its large customer base, experience and range of products and services is well equipped to face 2009. [www.ortivusna.com](http://www.ortivusna.com)

**LETTER TO OBAMA**

On January 14, 2009 representatives of the National EMS Management Association in the USA wrote a well-scripted letter to President Barack Obama and the Health Secretary. Some extracts from the letter;



Introducing prehospital diagnosis of life-threatening heart attacks reduces door-to-balloon time for PCI, which results in significant reductions in death and disability



When the government has instructed Community Paramedics to work collaboratively with nurse practitioners, ambulance transports to emergency rooms have decreased by 40%"

Read more at [www.ortivus.com](http://www.ortivus.com) under Knowledge Centre

At the hospital

To meet the challenges surrounding cardiologic surveillance, Ortivus has developed a unique system, CoroNet. Working with the users we have combined our own cardiology expertise with leading edge technology to develop a modern and flexible system suited for modern work methods and needs. The system incorporates both bed units and wireless patient units like central monitoring, workstation and telemetry. There is also a special PCI module that supports the operator in PCI treatment.

**Heart attacks**

CoroNet also incorporates the Ortivus patented method MIDA. This tracks the oxygen deficit, ischemi, which occurs in the heart in connection with myocardial infarction or angina. MIDA is an internationally recognised and scientifically well-documented method that is in currently used in hundreds of hospitals in different countries.

Ergonomic and user friendly products are a must within healthcare. Mistakes or ill-founded decisions can have serious consequences. Coronet takes this into account and has been designed to make the care providers' daily work easier and to support them in making rapid, well-founded decisions, for example in the case of severe chest pain.

**Out of bed**

The demand for mobility is constantly increasing. This includes allowing the patient more movement and flexibility and making relevant information better available. CoroNet is a so called telemetric system, where data is regis-

tered and transferred to central monitoring via a wireless measurement device that allows the patient free movement in the ward. The data transfer is of the highest quality, completely without interruption or negative effect on the measurement data. This world-exclusive solution is based on Bluetooth technology developed by Ortivus.

CoroNet even allows the patient to be transferred between wards without breaking the information flow. Coronet can also be integrated into the hospital's other information systems, thus increasing access to the relevant information. CoroNet can also be hooked up with Mobi-Med, thus ensuring an unbroken information chain right from the initial patient contact, such as in the home. Overall, CoroNet contributes to increased patient safety, more efficient use of resources and improved medical outcomes.

**Better care with the Heart Journal**

In order to support the processes on the cardiology ward, Ortivus works with Excense to create the "Heart Journal" (Hjärtjournalen). It provides operational and production support for the daily work on the ward. The Heart Journal stands as a layer between the hospital's central records system and the user. The Heart Journal helps with adherence to established protocols and guidelines, facilitates an exchange of information between other specialisations, and aids both internal and external reporting to, for example, Riks-HIA (The Register of Information and Knowledge about Swedish Heart Intensive care Admissions). The result is increased patient safety, more efficient use of resources and improved medical outcomes.



**IMPROVED MEDICAL OUTCOME**

- Full diagnostic quality also in Telemetry mode
- Advanced arrhythmia analysis
- Unlimited storage capabilities for advanced analysis

**PATIENT SAFETY**

- Based on Bluetooth technology for robust and secure wireless data collection
- Seamless data recording regardless of patients status bedside or telemetry
- Patient localisation in Telemetry mode

**INCREASED EFFICIENCY**

- Bedside and Telemetry seamlessly combined in one system
- Extreme flexibility
- Adapting treatment to patient, not the other way around

# Product portfolio that saves lives

## MobiMed

MobiMed is the most complete eHealth solution for prehospital healthcare on the market. MobiMed supports clinical and operational work, connects clinical pathways and contributes to quality assurance process development, operational follow-up and development.

MobiMed joins up prehospital and in-hospital activities and enables organisations to work together as a team.

MobiMed is a powerful platform for the construction of dedicated prehospital clinical pathways e.g. for severe chest pain and strokes.

MobiMed is the best IT for management of the introduction of work practices such as pre-hospital triage, treat & leave and treat & refer.

MobiMed is modular, flexible, scalable, configurable and integrateable.

MobiMed offers benefits to all stakeholders with improved medical outcomes, increased patient safety and efficiency.

### MobiMed includes components for:

- Decision support (telemedicine, real time data sharing, checklists, guidelines, "chat" etc.)
- Monitoring of vital signs
- Documentation
- Communication
- Integration with other systems both in vehicle and at system level
- Statistics, Audit & follow-up (Operational and Clinical).

### MobiMed as a service

Ortivus also provides MobiMed as a service. This model allows the customer to:

- Avoid infrastructure investment
- Easily expand the number of functions in a given installation
- Ensure high quality of service
- Always have access to the latest versions

## Software Assurance

As a complement to the traditional licensed sale, Ortivus provides its customers with Software Assurance. The customer automatically has access to all new versions and functions on a subscription basis. This is an appealing way to upgrade operationally critical solutions, making it an integrated part of the operation. The establishment of a relationship via Software Assurance is a mutual undertaking, built on trust and a common vision of the future.

## CoroNet

CoroNet erases the boundary between traditional bedside monitoring and telemetry. A patient can leave the hospital bed and walk around in the ward freely without loss of reliability and quality of monitored data. Its unique Bluetooth® based wireless concept meets the need for greater flexibility in modern cardiac care.

CoroNet also erases the boundaries between different monitoring sessions throughout the clinical pathway. One single database can be kept from the start of monitoring in the ambulance (MobiMed), through initial evaluation on arrival at the hospital, through any possible

PCI procedure, to monitoring on the ward and subsequent rehabilitation.

### CoroNet - main benefits

- Specially developed to meet the needs of modern, sophisticated cardiac care
- Flexibility for the patient and the care provider
- No border between bedside monitoring and telemetry
- Unique proprietary telemetry solution; robust and reliable with high performance

## The heart journal

The Heart Journal (Hjärtjournalen) in conjunction with Excense is an IT-solution that supports the daily work on the cardiology ward while ensuring quality and adherence to established routines and protocols. It facilitates information exchange between the various departments and disciplines involved in the care process and functions as the cardiology ward production system.

The Heart Journal system provides the cardiology department with:

- Homogeneous patient documentation and simplified reporting system
- Improved compliance with established treatment plans and protocols
- An increased understanding of the treatment applied to a particular individual
- Greatly increased possibility of monitoring and operational development
- Automatic generation of information for the Quality Register (kvalitetsregister)



MobiMed



CoroNet



## PRODUCTS

### EDS-H

EDS-H is an integrated part of the Heart Journal but is also a stand-alone product. It can be used with a record system to continuously monitor the occurrence of pre-defined combinations of data. When a given condition is observed a message is automatically generated which can be displayed or simply stored for subsequent analysis.

### Other products

Emergency Medical Services and Public Safety (Ortivirus North America).

#### Sweet-CAD and AVeL-CAD

Sweet-CAD is a call-taking and dispatching solution. It is a CAD system (Computer Aided Dispatching) specially designed for the demanding requirements of the EMS (Emergency Medical Service) sector. The solution manages both emergencies and planned transport, being optimised to reduce response times. For Public Safety services Ortivirus provides an equivalent solution AVeL-CAD adapted to the specific needs of this user group.

#### Selected features:

- Hot-key functionality; "drag & drop" dispatching, alerts for time critical response etc.
- Map-centric; real time tracking of vehicles, automatic "geo-coding", display of landmarks, resources etc.
- Provides a number of interfaces to other systems

#### Sweet-AVL and AVeL-Base

Sweet-AVL is an AVL (Automatic Vehicle Location) solution which allows EMS operators to follow their fleet on a digital map using GPS information from the vehicles. AVeL-Base is an equivalent solution for Public Safety.

#### MobiCAD for EMS och AVeL-MobiCAD

MobiCAD is the mobile equivalent of Sweet-CAD and AVeL-CAD. The application communicates with these systems and is run by a mobile unit in the vehicle. The product offers such functions as:

- text messaging
- real time AVL
- status updating
- interface to GPS equipment

#### Fusion ePCR

Fusion ePCR is a new software product for the management of documentation needs of the ambulance service. It has above all been designed to be flexible, reliable and user-friendly. It features:

- Touch screen navigation
- Photo and document attachment capability
- Configurable Layout
- Built-in decision support
- Customizable documents
- Encrypted patient database
- Compatibility with Sweet-Billing

#### Sweet-Billing

The EMS billing software program Sweet-Billing is the industry leader in the United States. It is used by more than 2,600 operators and contains all the functions required for efficient.

management of invoices to, for example, Medicare and Medicaid.

Sweet-Billing allows for production of electronic or printed invoices. There is also a comprehensive library of reports that can be generated automatically using a built-in "Scheduler". The solution meets the rigorous requirements for integrity surrounding dispatch and patient data.

Sweet-Online Billing service allows for customer access to Sweet-Billing on the Internet .

Read more about MobiMed, CoroNet and our other products on [www.ortivirus.com](http://www.ortivirus.com)



Sweet-Billing  
Sweet-CAD  
Sweet-Field Data  
Sweet-Online Billing  
AVeL-CAD  
AVL  
MobiCAD  
Excense Heart Record System  
Excense Decision Support Healthcare



# Working with brains and hearts

Ortivus operates in an international healthcare market where medical outcomes, patient safety and cost-effectiveness are fundamental requirements.

For 24 years, Ortivus has combined expert know-how in wireless, IT and medical technology with clinical expertise to build up confidence among a wide circle of international customers.

Our workforce is highly qualified, with strong experience and a customer centred approach.

Ortivus is an international corporation: 64 per cent of the workforce is based in the United States and Canada, 33 per cent in Scandinavia and 3 per cent in other European countries.

40 per cent of the employees are women, 60 per cent are men.

International business requires increasing emphasis on workforce expertise, especially in sales and marketing in different cultures. It is vital for Ortivus to be an attractive employer. Success is reflected in the ability to recruit and retain the personnel needed to realise the goals of the company. Ortivus encourages its workforce to be participative, to take ownership and to seek joint responsibility. Working at Ortivus is about leadership and co-operation.

The day-to-day work at Ortivus is characterised by five key words:

**ENCOURAGEMENT** Ortivus believes in open, direct, honest communication where everyone encourages everyone else. The individual is highlighted and individual contributions are noticed.

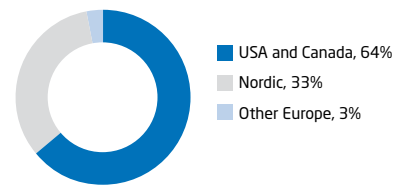
**RESPONSIBILITY** Each employee takes responsibility for both his/her own work and that of colleagues. If he/she sees possibilities or difficulties then these are communicated.

**PARTICIPATION** Each employee takes responsibility for both his/her own work and that of colleagues. If he/she sees possibilities or difficulties then these are communicated.

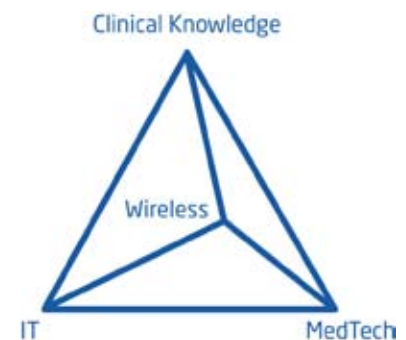
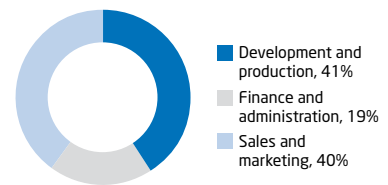
**COMMITMENT** Cooperation and communication play a decisive role in making the company efficient and successful. Great emphasis is placed on creating team spirit and a culture of "we".

**PROFESSIONALISM** The work of Ortivus helps to save lives and to increase quality of life. Taking pride in this creates commitment, and in turn creates a positive workplace.

GEOGRAPHICAL DISTRIBUTION OF STAFF



DISTRIBUTION FUNCTION PER EMPLOYEE



## FACTS

Ortivus has a total of approximately 100 employees and the headquarters is located in Stockholm. The company's competence centers is in Sweden and North America. Both sales and product development is located there. A subsidiary with sales and support is located in the United Kingdom. In other key markets in Europe Ortivus is represented by partners.

# 100

EMPLOYEES IN THE WORLD

# Market driven development, better client focus

Work on the structure of the market driven development process is under way. This includes specification of new products in accordance with the internationally accepted RUP (Rational Unified Process) right through from the market analysis phase. Moreover the installation, support and testing functions have been brought together in order to increase client focus and product knowledge within the installation and support functions.

## OPEN INTERFACES WITH REGULATORY QUALITY ASSURANCE

There is still a strong focus on improving the integration capabilities of our products as this is one of the main factors in our success. This applies to our products, regulatory considerations and of course the way in which we sell and install our products. We can now offer our customers integration without having to change our basic software.

Our products are always developed in such a way as to conform to medical technology regulations. This is achieved using a risk-based approach, and clear system architecture with standardised interfaces.

## STRATEGIES FOR PLATFORMS AND MODULARISATION

The platform initiative is going as planned, bringing more internal efficiency throughout the company and providing customers with a

modular product with a secure future. Platforms mean that synergies in product development and resources can now be exploited between the different Ortivus companies. An example took place in 2008 when staff from Sweden was loaned out to the development centre in Canada, achieving optimum lateral benefit.

## PROJECT MANAGEMENT AND CONTINUITY

Previously initiated improvement work on projects and processes is on-going and will continue to be developed for many years. Further areas of work to give Ortivus the conditions for growth have been identified.

### Corner stones in our development strategy:

- Clear, market driven development
- Solutions that provide IT interfaces for customers' existing applications
- Strategy for platforms and modularisation
- Clear project management and continuity



# 10 MIN

In Sweden citizens in urgent need who calls 911 (112) normally receives help from Rescue services and ambulance within 10 minutes.

Source: SKL - Öppna jämförelser 2008.

“ There is still a strong focus within Ortivus on improving the integration capabilities of our products, as this is one of the main factors for our success.

# Internationally recognized quality systems since 1996

Both the clinical and the EPR elements of MobiMed are certified under MDD (Medical Device Directive) IIb and thus already satisfy forthcoming reclassification for documentation and archive systems.

## THE EUROPEAN UNION

Ortivus headquarters in Sweden develops and produces medical technology products for heart monitoring and electronic record keeping. The cardiological monitoring products are classified as high risk by the EU medical technology directive, MDD. Ortivus has decided to adopt a complete quality management system certified under ISO 13485:2003 to meet the requirements in Appendix II of the MDD, thereby allowing the products to be marketed. The quality management systems allow Ortivus to be a cutting-edge enterprise and to continually improve our products and processes. In the case of electronic patient records, Ortivus sits on the international technical committees which set the norms in the field.

Ortivus actively monitors forthcoming regulations so as to approach them proactively. Ortivus is currently in a good position to meet future directives and regulations.

## NORTH AMERICA

Ortivus has adapted its quality management system to meet the North American directives

and legislation CMDCAS (Canada); QSR (USA). The chief focus for the North American companies lies in meeting product requirements and standards, such as NEMESIS.

## ENVIRONMENT

Ortivus is environmentally active. The ambition at Ortivus is that as few environmentally harmful materials as possible are used in product manufacture and shipping. Packaging, accessories and future repairs are also reviewed from an environmental perspective.

A product's components must be easily traceable. Ortivus products are assembled from standardised components purchased from sub-contractors. Ortivus has certain proprietary hardware that is manufactured by sub-contractors according to our specifications.

Ortivus does not manufacture any hardware components itself. Environmental considerations are an important criterion in the selection of sub-contractors. Materials, components and production methods are selected by Ortivus in conjunction with the sub-contractor.



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