



A revolution in health monitoring

– The ePatch platform brings intelligence to the world of health monitoring



New perspectives for health monitoring

“The ePatch platform brings intelligence to the world of health monitoring”

ePatch is a breakthrough technology platform in which a wide range of specialist sensors wirelessly transmit real-time information about the user's health, movement and body status.

The ePatch platform can be fitted with customer-specified sensors designed to autonomously monitor a wide range of physiological parameters. This valuable data can be put to use in a comprehensive range of unlimited practical contexts.

Monitoring body states

ePatch technology makes it possible for health care personnel, carers, families, work supervisors and colleagues to monitor what is happening with the wearer's health, movement and body status. ePatch technology also provides the benefits of automatic warnings if pre-defined parameters are exceeded, specific combinations of parameters arise or danger signs are encountered.

ePatches provide important data that smooth the way to effective preventive action, and making it possible to pro-actively monitor and manage health risk situations. Reliable real-time data gives a solid basis for reducing both risk and costs.

Wear and forget

Despite their exceptional capabilities, ePatches are easy to apply and to use. Wearers hardly even notice the ePatch – regardless of what they're doing or wearing.

ePatches are robust and comfortable enough to be worn during most kinds of day-to-day activities, even when these are strenuous.

Intelligence and interpretation

The key breakthrough in the ePatch platform is that it does much more than passively register and transmit physiological data.

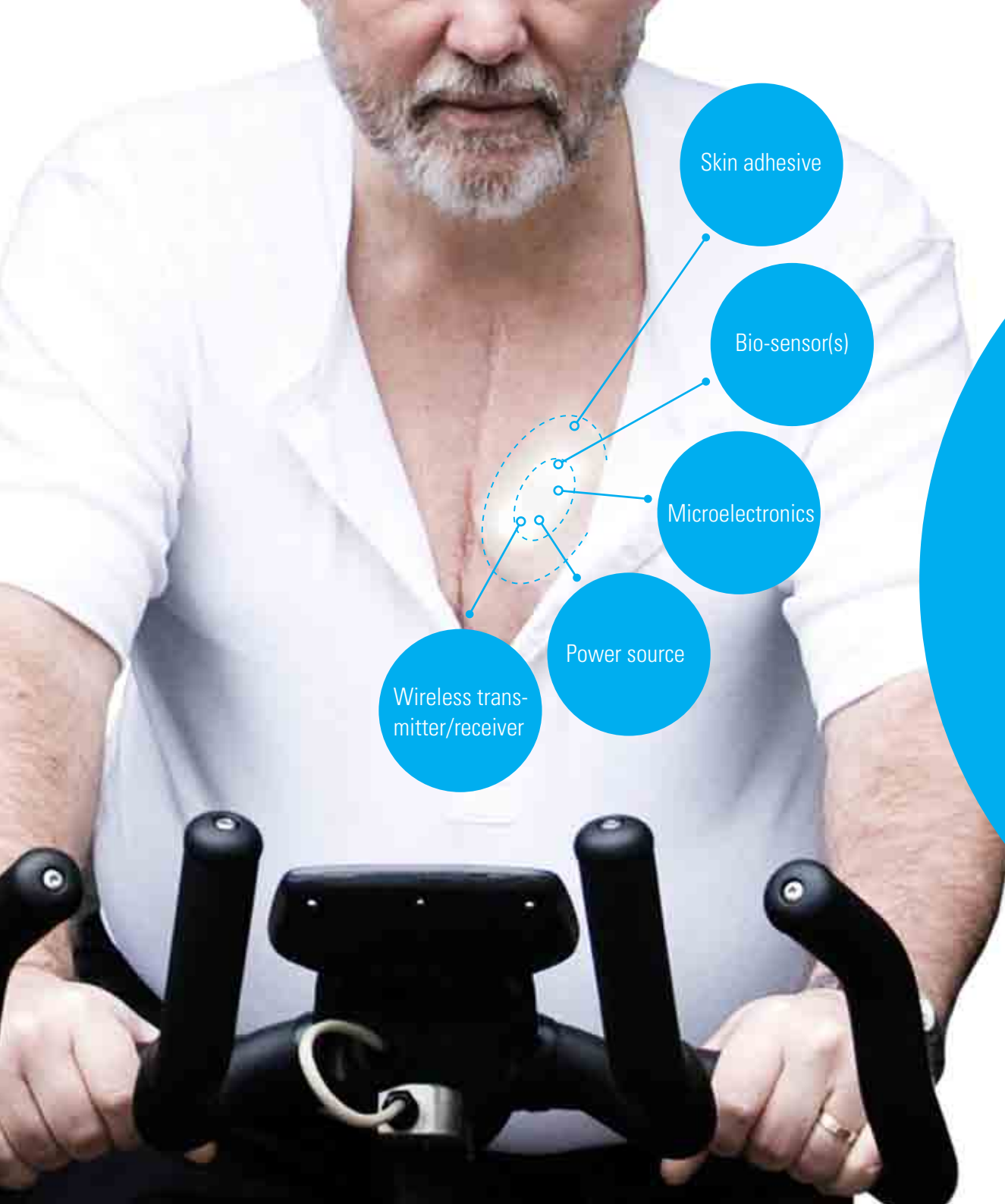
Advanced microelectronics and algorithms configured to specific uses enable the ePatch to intelligently monitor, process and filter data flows. This dramatically boosts the value of this data in providing alarm signals, as the basis of treatment decisions and for preventive action. And, of course, for reassuring both wearers and those around them.

High value – low cost

The ePatches that provide this valuable data are relatively inexpensive, easy to apply and easy to replace.

Despite their low cost, ePatches provide monitoring data of exceptionally high practical value. Customer-specified sensors and data filtering algorithms make it possible to gather and register reliable, up-to-date information with known significance.

This structured data plays a key role in the efficiency of subsequent diagnostics, decision-making and action. Which in turn saves on time, resources and manpower.



ePatch highlights

- > Continuous monitoring of physiological parameters
- > Intelligent filtering and interpretation of the registered data
- > Low-power wireless link between ePatch and receiver provides long battery life
- > Can be worn for several days before a new patch or new battery is needed
- > Easy to wear under clothing
- > Easy to apply and take off
- > Robust enough to withstand day-to-day activities

Diagnostic monitoring

ePatch products can play an extremely cost-effective role in the clinical diagnostic process. They are ideal for use in hospitals, by general practitioners and by health visitors.

Diagnoses can become significantly more accurate, because they are based on monitored data recorded while the wearer is engaged in the kinds of normal day-to-day activities that trigger the symptoms. This can result in significant savings in overall health care costs. These savings escalate because reliable diagnostic data can be obtained without needing to use hospital beds, specialist staff or clinical testing.

Products using ePatch technology can also play an important role in providing carers and families with on-the-spot information that can help tackle many of the fears and concerns they may have about the wearer's well-being. An ePatch can also provide a "safety net" feeling for the user.



Example

– finding out what the real problem is, for effective diagnosis



People with heart and blood pressure conditions as well as a wide range of other neurological ailments often encounter difficulties when under stress.



When such patients get to hospital, the immediate distress symptoms have often passed. Doctors find it difficult to make a concrete diagnosis, but give the patient an ePatch product to wear for a given period.



The ePatch monitors and records exactly what the wearer is doing, and what happens, what triggers the symptoms, and how the wearer's body reacts. Doctors can use this data to make a concrete diagnosis and prescribe the appropriate treatment – without needing to take up hospital beds or resort to expensive clinical testing.

Care monitoring

ePatch products are ideal for ongoing monitoring of the health status of people with chronic diseases or ongoing health problems, or who are undergoing rehabilitation or post-operative care. Wearers and their family members get an important sense of security because “someone is keeping an eye on them”.

Accurate monitoring data provides both primary and secondary care organisations with concrete feedback about the results of surgery, medication, physiotherapy, etc. Awareness about progress helps build “positive reinforcement” loops into rehabilitation and post-operative care. When wearers have full information about their own condition, they can become actively involved in their own care process. This boosts recovery rates by encouraging “self-care”.

Using ePatch technology also removes geographical limitations, extending the primary health care sector’s monitoring reach right into the home, school and workplace. It also enables wearers to remain in contact with their care network.



Example

– reassurance and feedback during the recuperation cycle



A man is discharged from hospital after a heart by-pass operation, and needs to begin a programme of rehabilitation and exercise.



The hospital provides him with an individually configured ePatch product that sends monitoring data to the patient's mobile phone, so he can check that his heart is working as intended. The phone also sends monitoring data back to the hospital, so that the appropriate health care professionals can monitor his progress and explain – or act on – any symptoms, if required.



Both the patient and his family feel reassured about his condition and progress, and the ePatch wearer feels confident enough to exercise more. He uses the data about his exercise achievements in an Internet-based competition with other bypass patients, and the GPS on his phone helps measure movement tempo – and also tells his family where he is.

On-the-job monitoring



The ePatch technology platform is ideal for configuring products that can help people with dangerous jobs limit the risks they are exposed to. When they are wearing an ePatch, people such as law enforcement officers, emergency services personnel and soldiers can have their vital signs constantly monitored from base.

Alerts based on physiological measurements can automatically be relayed to rapid responders, medical teams or support units if there is data indicating either possible danger or physical trauma. This provides cost-effective emergency back-up for radios and other communication equipment – which may be out of action.

There are multiple benefits for both individual wearer and the whole organisation of which he or she is a part. These can extend over the whole spectrum from preventing injuries to financial savings as a result of reduced insurance costs.

Example

– avoiding problems and reducing risks for those in dangerous jobs



Fireman wears a specialised ePatch product under his protective gear.



The ePatch gets turned on automatically when he puts on breathing gear and turns on his unit radio. His ePatch then monitors parameters such as his body temperature, pulse and breathing rate, as well as other physiological signs of stress, panic or smoke poisoning.



The fireman's colleagues and superiors can constantly get feedback on where he is and whether he is OK – and can act quickly to get him help or order him out if there are adverse indications.

Benefiting from the ePatch opportunity

As you like it

The ePatch technology platform consists of different types of sensors and microelectronics, an antenna for wireless transmission, and a battery – all unobtrusively integrated into an adhesive patch worn on the skin.

ePatches can be customised for use in countless different ways – it's up to you to decide on how you wish to integrate this groundbreaking technology into the commercial future of your company, and the kinds of new opportunities it could open up.

DELTA provides the technology that makes this possible, working closely with clients to meet each exact need. We design and configure each application-specific ePatch to include the sensors, microelectronics, power source and software needed to do the job with maximum efficiency and reliability.

The modular design of the ePatch platform, along with our unparalleled expertise in combining sensors, low-power microelectronics and advanced battery technology, significantly reduces development times and accelerates your path to market.

Wider, deeper – or different

The ePatch platform opens up a broad spectrum of strategic and commercial opportunities for companies in many different industries.

You can integrate ePatch technology into your existing product range, use it to add new products and services to your company's portfolio, or exploit its unique monitoring capabilities to reach completely new customer groups. ePatches can also add a wide range of extra services and income flows to existing products and services, perhaps helping your company move further up the value chain. It's up to you.

Think outside the box

The ePatch platform enables you to provide your customers with products that involve a broad spectrum of sensors in contact with the human skin, doing away with a physical link to a receiver or base system. It then becomes possible to intelligently monitor a wide range of bodily states and actions at any time – even from the other side of the world.

This means DELTA ePatch technology can help your company field products, systems and services never seen before, breaking into completely new markets and new customer segments. Again, it's up to you. And if you're still only at the basic sketches stage, we're here to help you bring your ideas to market – as and when you need us.

Structured collaboration

DELTA provides clear-cut, well-proven procedures for working with OEM manufacturers to ensure the best possible product, compliant with agreed specifications, completed on budget and according to schedule.

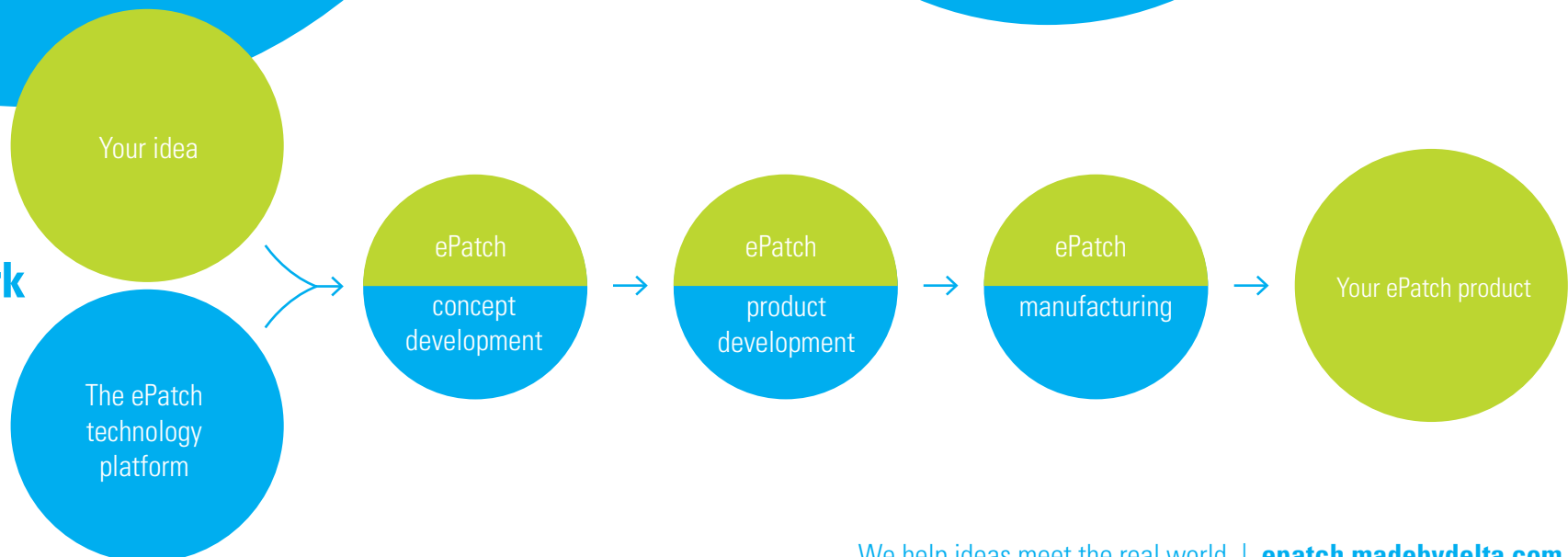
We're a down-to-earth company with comprehensive experience as an advanced-technology development partner, and a worldwide reputation for groundbreaking innovation as well as practical problem-solving.

Contact

The easiest way to start the process is to call Jens Branebjerg, VP Body sensors, on +45 72 19 44 32 / +45 30 60 37 80 or e-mail him at jab@delta.dk

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Since 1941 DELTA has played a leading role in Europe and with the help from DELTA, thousands of companies have enjoyed success through innovative use of new technology. The 250 employees in Denmark, Sweden and the United Kingdom cooperate with customers in more than 50 countries.

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