

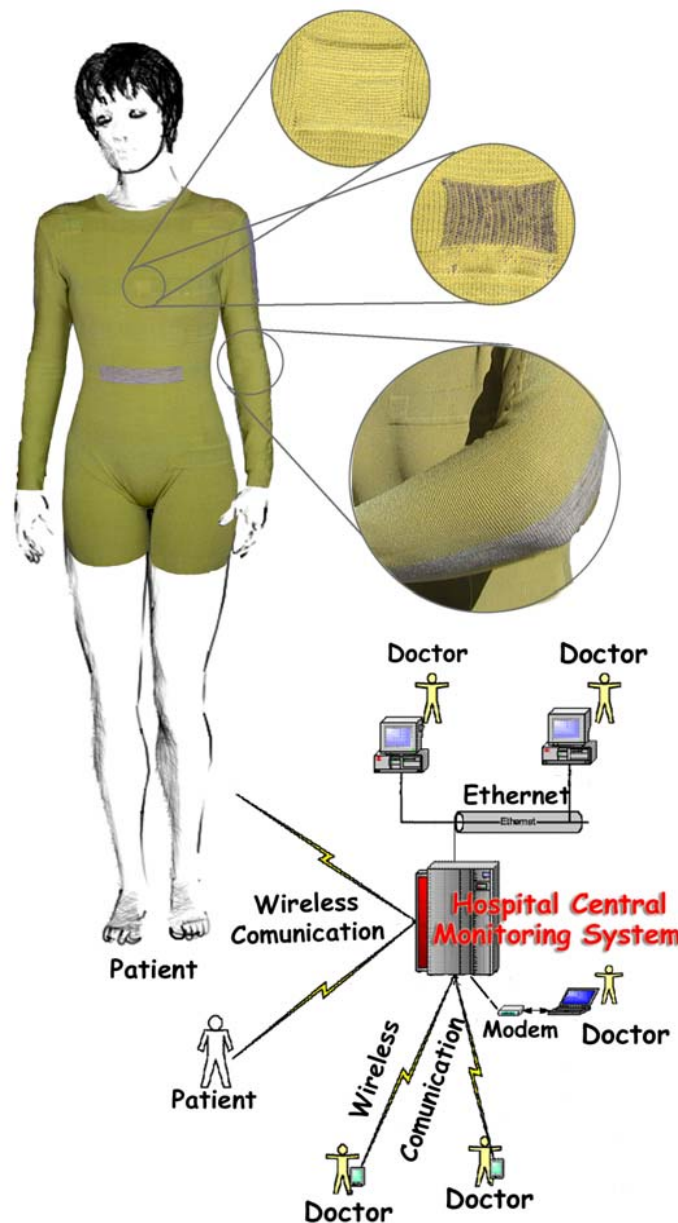
What is WEALTHY ...

A new concept in healthcare is emerging, aimed at fulfilling the need to continuously monitor the patient's vital signs through a ground-breaking woven sensing interface to be worn without any discomfort for the user. In our project, smart material in fiber and yarn form endowed with a wide range of electrophysical properties (conducting, piezoresistive, etc) will be integrated and used as basic elements. The simultaneous recording of vital signs allows parameters' extrapolation and inter-signal elaboration. This contributes to evaluate the patient's synoptic data table and to trigger alarm messages.

WEALTHY system will be implemented by integrating computing techniques, smart sensors, portable devices and telecommunications, together with local intelligence and a decision support system. The proposed system will assist patients during rehabilitation or subjects working in extreme stressful environment conditions, ensure continuous intelligent monitoring.

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WEALTHY



Wearable Health Care System

"Il y a quelque chose dans la texture de la vie qui n'est ni âme ni corps, mais pure évolution créatrice..."

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CONSORTIUM

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Major Innovations

The WEALTHY project presents two main innovations: The new type of sensors manufactured in textile form to provide a smart and comfortable textile interface, and a new service based on the monitoring system.

In terms of technological innovation, WEALTHY will focus on the following issues, which provide several progress steps compared to the current state-of-the-art:

- **"Smart" garment fabrics will be developed and tested: These will allow the sensing and preprocessing steps to be "wearable", thus increasing the mobility and safety of the user, and limiting the amount of data to be transferred.**
- **Direct wireless communication over the public network:**
Real-time data transfer will be made possible from anywhere the patient is located, and not limited to home or hospital.
- **Intelligent decision support system:**
Userfriendly interfaces will help the interpretation of physiological signals by medical staff and assist them taking the right decisions.

The possibility of simultaneously recording various physiological signals will provide an integrated view of normal and abnormal patterns of activity which could be otherwise impossible to detect by recording each signal in a different time.

It must be outlined that the possibility of recording physiological variables in a "natural" environment may help to identify the influence of psychoemotional factors while the user is performing a physical activity.



WEALTHY goals

- Providing continuous remote-monitoring of patient vital signs.
- Having an impact on the rising costs of assistance.
- Improving early illness detection and medical intervention.

Target Definition

The potential end users of the WEALTHY system are derived from the societal main needs:

- Patients during rehabilitation.
- People with higher than average probability that health problems may occur, such as
 - elderly people,
 - people having undergone transplantations,
 - patients with chronic diseases
 - and convalescent people.
- Professional personnel at risk (working alone, working in a dangerous environment, etc.).