

TACIT

Technologies Augmenting Clinical Insight

The **TACIT** project aim is to unlock the tacit knowledge of Europe's senior clinicians both by linguistically analysed multimedia recording and by expert location and communications.

Objectives of the project

The objective of **TACIT** is to unlock some of the tacit knowledge of Europe's highly experienced senior clinicians and to combine that knowledge with readily accessible explicit knowledge. This will enhance decision making at all levels of care delivery – including the experts themselves – by facilitating sharing of expertise within Healthcare Communities of Practice, with the goal to reduce clinical risk and improve the quality of service for the patient throughout the care delivery process.

The emphasis of this approach is on the clinician, providing instruments to allow him/her to take better and more informed decisions. It will be fully prototyped and experimented within the key clinical process of cancer care, addressing the substantial problems of bridging clinical expertise between secondary (hospital) care and after care led by the general practitioner and supporting specialist community nurses.

The challenges to achieving this vision are:

1. Defining what knowledge is required – **TACIT**, as its name implies, will focus on the tacit knowledge held by experienced clinicians and will analyse exactly how this gets applied in clinical decision processes within the user partners. In addition, a key feature of **TACIT** will be a self-learning capability, recognising that clinical decisions are iterative, reducing uncertainty and imprecision through stages of tests, analysis and the generation of further ideas.
2. Eliciting tacit knowledge – **TACIT** will prototype ubiquitous knowledge elicitation tools which will monitor, record, film and capture the actions, words and results of the senior clinicians as they work with patients, and store this in a multimedia database.

3. Applying the knowledge – the aim of **TACIT** is to try to apply the latest thinking in “expertise” management to tapping into the tacit knowledge base in unstructured and interactive ways.

4. Locating expertise when systems for knowledge fail – a major aspect of tacit knowledge management is the identification of who holds the expertise, and the provisioning of communications with that person when required (expert location). **TACIT** will include a peer-to-peer expertise location and sharing network to enable experts to be quickly identified and communicated with.

5. Taking cultural and linguistic differences into account – **TACIT** aims to cross linguistic and cultural boundaries as far as possible in the sharing of clinical experience, ensuring that expertise can be shared across Europe's health organisations.

Project Description

Health is essentially a knowledge industry, with islands of expertise isolated by poor communications. Efforts to share knowledge have so far focused on explicit knowledge, mainly data, while tacit knowledge remains in the mind of the expert, only to be accessed by training or practice.

TACIT will enable expertise sharing within healthcare Communities of Practice with the goal to reduce clinical risk and improve the quality of service to patients. **TACIT** will be prototyped and piloted in cancer care where it will support the entire clinical process across primary and secondary care.

TACIT will determine the key knowledge requirements of the clinicians in the project's two pilots. It will specify, prototype and test Ambient Knowledge Elicitation integrated with an Expertise Browser and expert locator. It will ensure that the tools can operate across multiple languages and cultures, promote

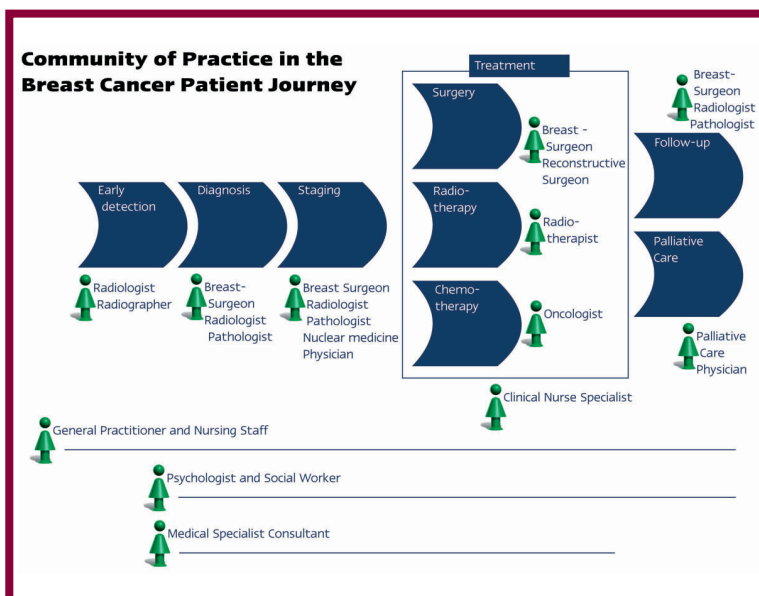
the results via an aggressive dissemination campaign, and plan and implement an effective route to exploitation.

TACIT will lead to shorter waiting times for admissions and outpatients, higher quality of care. This will create social and economic benefit.

Expected Results & Impacts

From the technological point-of-view **TACIT** aims to:

- record and capture actual clinical practice via speech-to-text combined with video
- tap into experts' tacit knowledge, either from the stored repository, or via live chat having located the expert within the Community of Practice
- combine the power of access to heterogeneous sources of information, with a multimedia knowledge base
- provide an interactive front end which combines intelligent search with expert location and chat tools
- support multiple languages and cultures within the same knowledge base
- self-learn from decisions taken.
- These innovations will be piloted and fully validated in two European hospitals, leading to a strong set of case studies and results which will be disseminated to the healthcare ICT community, knowledge management technology and practice community and to the wider European research community.



T A C I T

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- FOURSIGHT Limited, (UK)
- EXPERT SYSTEM S.P.A., (IT)
- METAWARE S.P.A., (IT)
- Libera Universita "Campus Bio-Medico" Di Roma, (IT)
- Center for Usability Research & Engineering, (AT)
- AIRIAL CONSEIL, (FR)
- Corpora Plc, (UK)

Timetable: from 06/04 – to 08/06

Total cost: € 4.271.940

EC funding: € 2.500.000

Instrument: STREP

Project Identifier:

IST-2002-507691

Keywords:

Tacit knowledge, linguistically analysed, clinical expertise, knowledge elicitation, senior clinicians, expert location, cancer care, expertise browser