HealthManagement
Promoting Management and Leadership

Volume 1 / Issue 4 2005 - Hospital IT Award

From Small-Talk to an EU ICT Prize

Author

Stéphane Chemouny, *PhD,*

President and Director of Scientific Affairs,

Intrasense, Montpellier, France

Email : chemouny@intrasense.fr

On March 16th 2007, Intrasense was awarded the European ICT Prize for its medical image review and aided-diagnosis software suite Myrian® at CeBIT, the world's largest ICT (Information and Communications Technologies) tradefair held in Hanover, Germany.

The European ICT Prize is the most distinguished prize for innovative products and services in the field of ICT. Supported by the European Commission, it is open to companies from 33 European Union or EU-associated states, regardless of their size or age. Their work is judged upon criteria including technical excellence, innovative content, potential market impact, strategic business planning, and likely social impact. The European ICT prize provides public recognition and a highly visible profile to innovative companies that convert novel ideas into marketable products. We wish to describe how an independent medical research project has evolved into an economically viable enterprise that develops medical ICT products for clinical use that level up to industry-leading conglomerates.

Genesis

Our story began with a chance meeting between two neighbours, one a medical professor specialised in hepatic surgery, and the other, an agronomist specialised in modelling the architecture of trees. They decided to work together on a study of the arborescent makeup of hepatic vascular systems.

Their fortuitous encounter in 1998 with a computer scientist who happened to be a CT–scan-image, bomb-detection expert dramatically changed the course of events.

The three men decided to join forces in creating a software tool that could analyse CT-scan images to aid in the diagnosis, therapeutic planning, and follow-up of liver cancer.

For this purpose, three research centres of Montpellier (Southern France), namely Val d'Aurelle Anti Cancer, CIRAD Agronomy and the University of Sciences, were brought together to father the Myrian® Project. The 2002 prototype already made it possible for the user to instantly interact with 3-dimensional rendering of liver tissue, to sort healthy tissue from pathological tissue in a quantitative and precise manner, and to simulate hepatectomy - all of this in under 5 minutes.

Industrial development work nevertheless remained to be done in order to turn the new prototype into a stable, reliable and user-friendly tool, intended for strictly- regulated hospital use.

Defining Corporate Strategy

The whole of 2003 was spent evaluating the project's technical and economic feasibility, as well as setting up financial support. It soon became evident that a company could not survive marketing one single product dedicated to the sole case of liver cancer. It also became apparent that the main group of customers the software was aimed at, radiologists, regardless of their enthusiastic attitude, would never purchase a tool that was so limited in use.

Fortunately it also transpired that the prototype could be adapted to a broader field of use, such as other clinical applications (cancer and other pathologies of lung, orthopaedic, brain…) or less specialised applications requiring better, more affordable and more efficient management of medical images than that of existing diagnosis workstations.

Two key factors regarding radiological software were established:

fi the urgent need for effective userfriendly tools that could deliver enhanced productivity to radiologists faced with ever-increasing demands and,

fi equally urgent, the need to obtain quantitative and objective results in order to ensure reproducibility of diagnosis.

Clearly, there was true market differentiation potential. Moreover, the product was aligned with the growing need for medical image workstations resulting from the advent of "filmless technology".

The combination of all these factors pointed to the economical viability of an enterprise-based on the following guidelines:

fi Sustain an R&D effort of the highest level

fi Provide superior ergonomics

fi Apply Total Quality Assurance policy

fi Make optimal usage of every bit of R&D effort

fi Be a worldclass actor on the international stage

These key points have been implemented and are constantly being monitored.

Accomplishments

The company was founded in 2004 with the private financial support of two business sponsors who both manage a world leading bio-tech group, as well as several public grants.

The enterprise's feasibility study was funded by the French Ministry of National Research as a result of a nation-wide competition aimed at helping the establishment of new businesses in France, the CNACE.

Development of the company was financed in part by the national research support agency OSEOAnvar's entrepreneurial innovation award and also by the Regional Council's governmental new business development grant. *R&D:*

25 peer-reviewed publications or communications involving one or more members of the R&D Team have been produced. They deal with a broad variety of subjects including liver cancer, 3D analysis of inertia axis of carpal bones, biomechanics of weakened mandible and were written in collaboration with our academic partners: leading hospitals in Europe, China and USA.

Our software is a unique commercial product which enables radiologists or surgeons to simulate hepatectomy in a matter of minutes. The solution has been clinically validated and is used in daily practice by numerous hepatic surgical centres.

Ergonomics

All categories of users unanimously agree upon the user-friendliness of the application, which can be mastered very rapidly.

Total Quality Assurance Policy

Myrian® belongs to the elite club of diagnosis workstations with class IIa CE marking (authorising diagnosis). It has been FDA approved and is presently awaiting final Chinese SFDA approval. Furthermore, the company is ISO 9001 and ISO 13485 certified.

Optimizing Every Bit of R&D

In developing the liver product it was necessary to implement functionalities such as DICOM compatibility (PACS, Server, and Patient CD), series database management tools, 2D and 3D display capabilities and measurement tools.

The software package was deliberately conceived in a modular fashion in order to easily integrate or remove functionalities. Thus, a full range of products was generated, which include a DICOM viewer, a 3D workstation, or a dedicated operating room viewer.

Furthermore, the application is available in four languages (English, French, Chinese and Japanese) and is easily configurable for other languages.

Conclusion

We have seen how a focused scientific research project can lead to the development of a whole range of complementary professional tools that keep in line with its initial vision and values.

As each year passes, the founding fathers of this rapidly-expanding company are gradually being joined by a growing number of staff members. The corporate turnover has trebled each year since 2005.

The Future

The Intrasense goal is to enter the top 5 World-Class actors in its field by 2010.

We aim to achieve permanent excellence in R&D, product innovation and contribution to better healthcare.

For more information, please consult the company's website at the following address:

http://www.intrasense.eu/ or http://www.myrian.eu/

Published on : Thu, 28 Jul 2005