



A Catalyzis unit

Calystene

Health Information Pioneers

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Calystene

Le précurseur santé

A new generation of health IT systems was imperative...

As integrated health IT software editors since 1992, our creativity and ability to think ahead has positioned us as health IT pioneers.

Facing new hospital restructuring, health professional requests, we bring a bold and convincing answer to a public with ever increasing security, efficiency, comfort, ergonomic requirements.

To meet this challenge, starting from scratch was the only way to create a sustainable solution, with evolution capacities and with no risk of obsolescence for the coming 20 years: Futura Smart Design®.

Futura Smart Design®: modernity under control

Capitalising on our experience and expertise, we have employed the best of IT concepts: N-tier architecture, SaaS, FullWeb 4.0, vectorial and touch GUI, SOA and ORM technologies. These mastered and controlled technologies have resulted in an easy-to-use, efficient tool, whose ergonomics is inspired from the latest Smartphones.

To an efficient Health Information Management System are added three major dimensions, lacking in current HIMs:

- Sustainable adaptability to professional uses and needs
- Immediate availability of information, anywhere and anytime
- User guidance for tasks and their sequence

In order to meet this goal, we have invested in the necessary resources and tools: reinforced considerably our R&D team, expert training in state-of-the-art technologies and enforcement of new project management methodology, namely the Agile SCRUM methodology.

Agility has the advantage of closely associating the business sponsor and our R&D teams. Throughout the development process, workshops,

**An agreeable
easy-to-use,
tactile, user-
friendly tool**

...by creating Futura Smart Design®, Calystene has done it.

at 3-week intervals, ensure, regular priority assessments to meet professional needs; in contrast to standard procedures with their fixed perimeters and spaced out deliveries.

Futura Smart Design®: the revolution that changes all

Futura Smart Design® revolutionizes Health Information Management Systems, presenting users with innovations. As a rudder in sailing; makes sailing easier, more precise and more secure, allowing Columbus to discover America without sailing to Greenland, thus, Futura Smart Design®, helps the user via its innovative concepts, ergonomics and design. Among others, the unique graphical style which makes Futura Smart Design® a simple, clear, user-friendly, “agreeable” tool. Ergonomists and designers have accompanied us during the development of Futura Smart Design® to produce a reference in ergonomics for next generation integrated IT systems, whatever the technology, touch or non-touch, from Smartphone to wide-screen or touchpad.



Futura Smart Design®: The user becomes the master

With Futura Smart Design®, the user becomes the master of his own worktool. With the Futura Smart Design® portal, the WebService philosophy applies, with each user having their own screens, displaying their respective components, with shortcuts to the most used. Other WebServices are displayed as “widgets” as it can be found on the latest Smart-Phones. The user can then modulate the portal to match his needs and environment.

Futura Smart Design®: best practices guide

With automatic or semi-automatic, customizable Workflows, the WebServices come to life, reacting to IT system input, Futura Smart Design® ensures good practice, correcting the poor, and ensures respect of procedures, thus minimizing error.

In conclusion, choose Futura Smart Design® and become part of the healthcare IT system revolution: meeting the challenges of modernity, security and economic efficiency in healthcare, ensuring the best chance of success.

Futura Smart Design®, Future will prove you right.



[1] AGILE: An Agile methodology is an iterative methodology based on requirement refining throughout the development process

[2] GUI: Graphical User Interface

[3] CRF: Case Report Form

FUTURA, the compelling name for our new solution, **full web 4.0**, developed using the **AGILE^[1] method**.

SMART since Futura Smart Design® includes as standard all the highly parametrable functions as essential as alert management or automated WorkFlow management [Motion WorkFlow®]. Futura Smart Design® acts as an intelligent mediator adapting to user's needs and institution organization. Futura Smart Design® ensures good practice and helps the user to correct the perfectible. Hence, procedures and protocols are easily shared and followed by all.

DESIGN, reflecting its distinct, clear graphical style and perceptible ergonomics. Ergonomists and designers have been involved in the project since its creation to make Futura Smart Design® **the reference in next generation GUI^[2]**.

In addition to the web services available in Futura Smart Design®, forms, questionnaires, surveys, evaluation scales, specialized records, CRFs^[3], etc., can be accessed in the portal on request, as well as external web applications, as for Smartphones.

SMART AND DESIGN for the judicious concepts "Read or Write®", "User contextview®", "Web services container®", "Web-DesignReactiv", Open mosaïc®, "Motion WorkFlow", all developed by Calystene. Such innovations allow the user to regroup the main tasks and functions indispensable for a secured web portal, vigilant, proactive, fully adapted to its roles and missions.

Improved security

Why “improved”? Because the concepts and advances resulting from the technology and architecture chosen for the development of Futura Smart Design®has led to a previously unimaginable leap forward in SI security.

Improved security in Confidentiality and Authorizations

Futura Smart Design® means better security for data access and authorization management. User access rights to data are granted on the data unit scale. The fundamental progress is that unauthorized data cannot leave the server, thus rendering fraudulent capture of the network impossible.

Improved security in Process Securization

P.A.S (Pluggable Alert System), the patented Futura Smart Design® module for management of alerts for healthcare, intelligent, based on “fuzzy logic”, authorizing all types of production and publication of mono- or multi-parameter alerts.
After parametrizing, P.A.S ensures a double security, reinforcing all the other check-points of Futura Smart Design®.
Motion Workflow®, one of Futura Smart Design®’s innovative concepts, offers the option of a sequence of parametrable controls of tasks aimed to facilitate and secure clinic and hospital processes.
With Motion Workflow, no step in the process is overlooked.
Another frequently requested innovation is provided by “Read or write” clearly separate modes, i.e. separation of “write” and “read” modes for greater security and better legibility.

Improved security and Investment Durability

Chosing Futura Smart Design® will ensure solution evolution related to both function and technology.
The solution is built on the IT model of the next 20 to 30 years.
Maintaining Futura Smart Design® at summit of state of the art Health



Information Management Systems technology is possible due to its concept: by its elementary and multi-strata functioning (in contrast to the mono-block concept and other solutions, even full-web).

Improved security with Audit Trail

Futura Smart Design® offers the best possible audit trail: time, date and signature are presented for all data, for each task, and, in addition, data deletion is uniquely logical. No physical deletion can by-pass the audit trail.

Improved security in Information Sharing

The connectivity of Futura Smart Design® included in each of its functional components (webservices), the Solution can communicate and interact with all external information sources: monitors, external systems, on-line medical records, etc. Hence, Futura Smart Design® offers unequalled interactivity, providing better and safer patient management.





Danielle/physician: "When I consult a patient's file, I only want to see the provided information."
Bernard/nurse: "Why risk adding an error to a patient's file when I only want to consult it?"

Pierre/surgeon: "In order to consult all pertinent information, I have to click at different parts of the program"

Isabelle/supervisor: "My program is compartmentalized. It's difficult to assemble all the different information in one space"

You wanted
READ OR WRITE
Calystene has done it!

Separating « write » and « read » modes gives greater security and legibility.

You wanted
USER CONTEXT VIEW
Calystene has done it!

Screens can be parametered by the user to view all pertinent information simultaneously.

You wanted
WEB-SERVICES CONTAINER
Calystene has done it!

A service connector is available and easily accessible by the user in the solution portal (one touch).



Hervé/surgeon: "Enlarging or reducing my window to fit contents: no data loss when my window changes size, then it's for me ..."

Françoise/supervisor: "useless empty spaces, truncated information, ...better management of the available screen space, that would be great!"

Sylvie/secretary: "I'd like to get rid of my post-its and other memos, but my program won't let me."
Loïc/physiotherapist: "Me, in particular, I'd like my information system to help me to secure the set-up and follow-up of all my carer procedures and tasks."

You wanted
WEB-DESIGN REACTIV
Calystene has done it!

Data and images are automatically adjusted to fit. List mode can be replaced by graph mode. All can be replaced by paging, etc. ...

You wanted
OPEN MOSAIC
Calystene has done it!

Services displayed on the screen depending on user requirements and screen size (standard, wide-screen, touchpad, ipad, PDA, etc.)

You wanted
MOTION WORKFLOW
Calystene has done it!

Sequences of parametrable controls of tasks aimed to facilitate and secure clinic and hospital processes. Helps set-up and following of good professional practices and pinpoints inadequacies.

Functional domains of Futura Smart Design®
The information portal for healthcare professionals



Futura Smart Design® offers multidisciplinary follow-up and sharing of patient and resident healthcare management.

Futura Smart Design® adapts to all types of healthcare professionals: physicians, secretaries, nurses, auxiliary nurses, physiotherapists, ergotherapists, speech therapists, social services, psychologists, etc. and to all medical specialties: Surgery, Obstetrics, Medicine, Follow-up care and Rehabilitation (medicine and re-education), Psychiatry, retirement/nursing homes.

Optimized flexibility enables easy set-up and follow-up of healthcare plans, summaries, transfers, reports, certificates, etc. whatever the function and specialty.

A vast word-processor, compatible with all standard formats is included in the portal for the edition of documents ranging from basic to database field merging models. All text fields have formatting and spell-check.

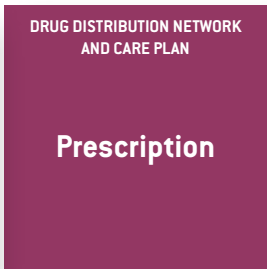
Functional component production links existing and new data entities increasing power adjustment.

Imaging, biology, monitoring and many other types of multimedia (video, photos, sound recording) are included in the portal and are immediately accessible.

Workflow design results in secure and optimal running of the coordination of the Healthcare Professionals Electronic Medical Records process.

Records are organized by theme, specialty or pathology. Screens can be modulated as desired. FUTURA's Healthcare Professionals Electronic Medical Record is designed to respect all regulations and all current and future inquiry and reporting requirements.

On-line sub-titled multimedia training software is accessible directly in each functional component.



Futura Smart Design® edits drug and non-drug prescriptions and allows access to current treatment and/or prescription and treatment history

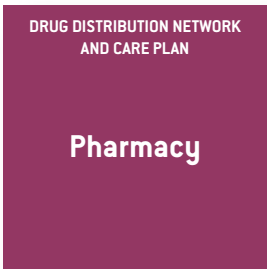
In addition to medical record data displayed in the related screen, all information necessary for safe and transparent management are available in the respective portal: age, gender, anthropometric data (prescription weight, height, BMI), creatinine clearance, allergy to iodine or latex, pregnancy (or suspicion) and breast feeding for women, access to drug or other repositories (CIM10, CPT, etc.).

Automatic checks reinforce security during the prescription process: drug interactions, physico-pathological contra-indications, drug and excipient allergies, physico-chemical incompatibilities, maximum posologies depending on context, etc.

Futura Smart Design® allows prescription by INN or specialty. In the case of INN, Futura Smart Design® pre-selects automatically the corresponding specialty from the drug formulary depending on the criteria parametered by the establishment.

Drug Distribution Network and Care Plan

Futura Smart Design® includes the three functional links vital for continuous and shared management of any care plan or any drug and medical device distribution network.

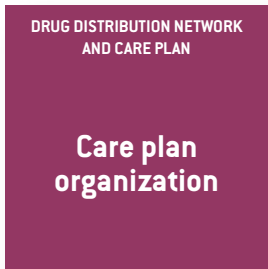


Futura Smart Design® offers integrated medico-economical management of establishment pharmacies, mono- or multi-site. Futura Smart Design® centralizes prescription access, pharmaceutical analysis and delivery using the therapeutic booklet produced using a drug referential approved by the authorities.

Pharmacists can perform their task in full security thanks to Futura Smart Design®'s portal providing instantaneously all relevant medical information, performing all necessary and possible checks (cf Prescription).

Futura Smart Design® calculates and proposes the best possible choice from the specialty dispensing drug formulary respecting prescription regulations by INN.

Futura Smart Design® respects all regulations currently in force and foresees any future progress in security related to drug distribution and medico-economics.



Care plan organization includes: individual care plan, actual patient timetable, global care plan, with "wide-screen" function, monitoring including: "patient parameters", "biology results", "current treatment" and access to therapeutic protocols, healthcare professionals planning, service planning displayed graphically with all useful information (e.g. "contagion risk", "agitation", "patient in operating room"), etc.

Care plans and monitoring are linked directly.

For example, any data entered in the monitor leads to validation of the corresponding care in the care plan. This direct link also exists between care plan, monitors and "targets" or objectives.

All types of monitor or apparatus recording parameters can be connected to Futura Smart Design®.

Information can be viewed in real-time in the portal.

Alerts and automatic checks aid healthcare professionals perform their tasks, who can, if necessary, trigger an alert following an event.

Subsequently, the user can access miscellaneous forms (GCS, Evaluations, etc.).



Functional domains of Futura Smart Design®

Plannings

Planning management is a transversal domain of Futura Smart Design®, covering all planning functions for individual or multiple personnel, individual or groups of patients, individual or multiple resources, materials and places.

Planning of one or several appointments or acts for patients or groups of patients implicates personnel and resources planned in the protocol, if applicable. Time slots are assigned after automatic management of imperatives: dates, making and spacing a series of appointments, etc. Planning modification is aided by ergonomic subtleties and numerous checks.

Direct cross-checking of data optimizes and secures management of pluridisciplinary and multiservice organization and follow-up. Patient location is indicated in real-time on the care or service planning.



Housing
management

Futura Smart Design® offers an innovating complete tool for management of beds and care-dispensing sectors, improving service for patients, optimizing occupation by efficiently coordinating work-load, maintenance and disinfection time etc. Bed management starts as soon as the request for patient admission is received from a private practice, for example.

A graphical representation is included in the service plan with relevant indicators related both to the bed and its occupant. A time representation in the form of a planning by functional unit or by service provides the user with a direct view of available beds, occupied or reserved beds over a chosen period. All in a tactile environment with extremely intuitive ergonomomy.

Checks and aides ensure optimization of bed attribution and occupation according to a wide range of criteria: planned length of hospitalization depending on reason or management protocol, gender, age, contagiousness, other patient details, accompanying person, etc.



Operating room -
Anesthesia

Futura Smart Design® optimizes operating room planning and management from receipt of the specialist's admission request, in particular the registering of information related to the planned operation protocol (act, phase, material, team, prospective payment system, pre-coding etc.), to leaving the operating room, recovery ward and transfer by stretcher to the service.

Graphical representation of operating rooms includes indicators of advances/delays in the planning and a second temporal representation in planning form provides operating room personnel with all the tools required for optimal organization and follow-up of surgical operations. All in a tactile environment with extremely intuitive ergonomomy.

Anesthesia consultations, pre-medication, induction, per-operative observation, other prescriptions, surveillance monitoring, reports are available, depending on context, in the tasks display within the portal



Emergency
services

Futura Smart Design® includes an enlarged emergency service management: administrative and medical reception, waiting lists, coding, invoicing, etc., all displayed via the Web portal.

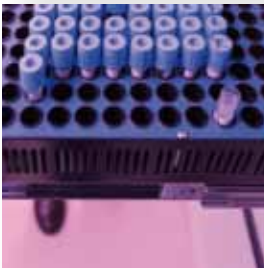
Emergency service personnel share all necessary electronic functions with other personnel: plannings, service and operating room plannings with available beds and rooms, prescriptions, biology results, care plan, monitoring, additional examination reports, record history, etc.

Graphical planning for cubicles allows current activity and waiting-list to be assessed at a glance. Finding a place for care continuation is greatly facilitated by accessing the bed management.

Alerts

Futura Smart Design® possesses a highly innovating mechanism for alert management in healthcare. This production and display system for alerts in medicine is entirely paramettable. It concerns simple, mono-parametered alerts with fixed values (e.g. T° above 39°C), as well as more complicated, multi-parametered alerts with values produced using “fuzzy logic”. Parameters are linked to patient, environnement, etc. (e.g. external temperature, pollen count, atmospheric pollution levels, service MDR, etc.).

Alert production is multi-mode: portal, SMS, e-mail, etc. The clever graphical effects make this function extremely efficient.



Functional domains of Futura Smart Design®

Coding

Coding management was examined in depth during the design and development phases of Futura Smart Design®. The close relation between coding, invoicing and establishment budget has led to maximum security and feasibility for this production function.

Medico-administrative information supplying the coding functions is entered at source, in situ for certain organizations or real-time for the healthcare professionals within the portal. Items are highlighted to attract user attention to the fact that this information is required or is highly recommended.

A true production hub, with checks (exhaustive and quality) and validation provided for the coding teams. Feedback is automatic in the portal for the services concerned, with or without parametrable alerts.



Invoicing/
Prospective
payment

Invoicing is aimed at private and public establishments, for Surgery, Obstetrics, Medicine, Follow-up care and Rehabilitation (medicine and re-education), Psychiatry, retirement/nursing homes and Medico-social activities.

Futura Smart Design® allows management and complete follow-up of patient or resident administration records. All steps in patient management are concerned: data collection, invoice calculation and validation, prospective payment and daily charge, correspondence with organisms, accounting documents. Confidentiality is guaranteed using advanced functions of a multi-criteria and homonym “Google-like” search tool.

Futura Smart Design® includes customer accounting allowing clinic and charge management.

Navigation

Futura Smart Design®’s data model was designed for easy, no-limit running of the database with highly available data-management and reporting tools.

Nevertheless, Futura Smart Design® includes a navigation module allowing simplified building of data collections and querying. The establishment has a permanent data map by activity via diverse analysis prisms: coding, internal signals, searches, financing, etc. Dash boards are displayed for the respective users via the Web Futura portal.



Futura Smart Design® is the answer for information management needs in Surgery, Obstetrics, Medicine, Follow-up care and Rehabilitation (medicine and re-education), Psychiatry, retirement/nursing homes and Medico-social activities

For information concerning other functional domains currently under development, please contact us



SURGERY, OBSTETRICS AND MEDICINE

Recovery
Anesthesiology
Surgical unit
Alerts
Emergency
Sterilization ward
Radiology
Maternity

SOM

Sterilization

ICU



FOLLOW-UP CARE AND REHABILITATION

Objectives
Alerts
Psychotherapy
Planning
Monitoring
Ortho
Scores
Objectives
Education

FCR

Social
Diet



PSYCHIATRY

Group Planning

Social support

PSY

Mental health

Addictions Risk factors

Confidentiality Prospection

Psychiatry

Memory Counseling

NURSING HOMES/MEDICO-SOCIAL

FUTURA
SMART
DESIGN

NURSING HOMES

Healthcare

Life project

Scores

Alerts

Follow up

Residents

Social support

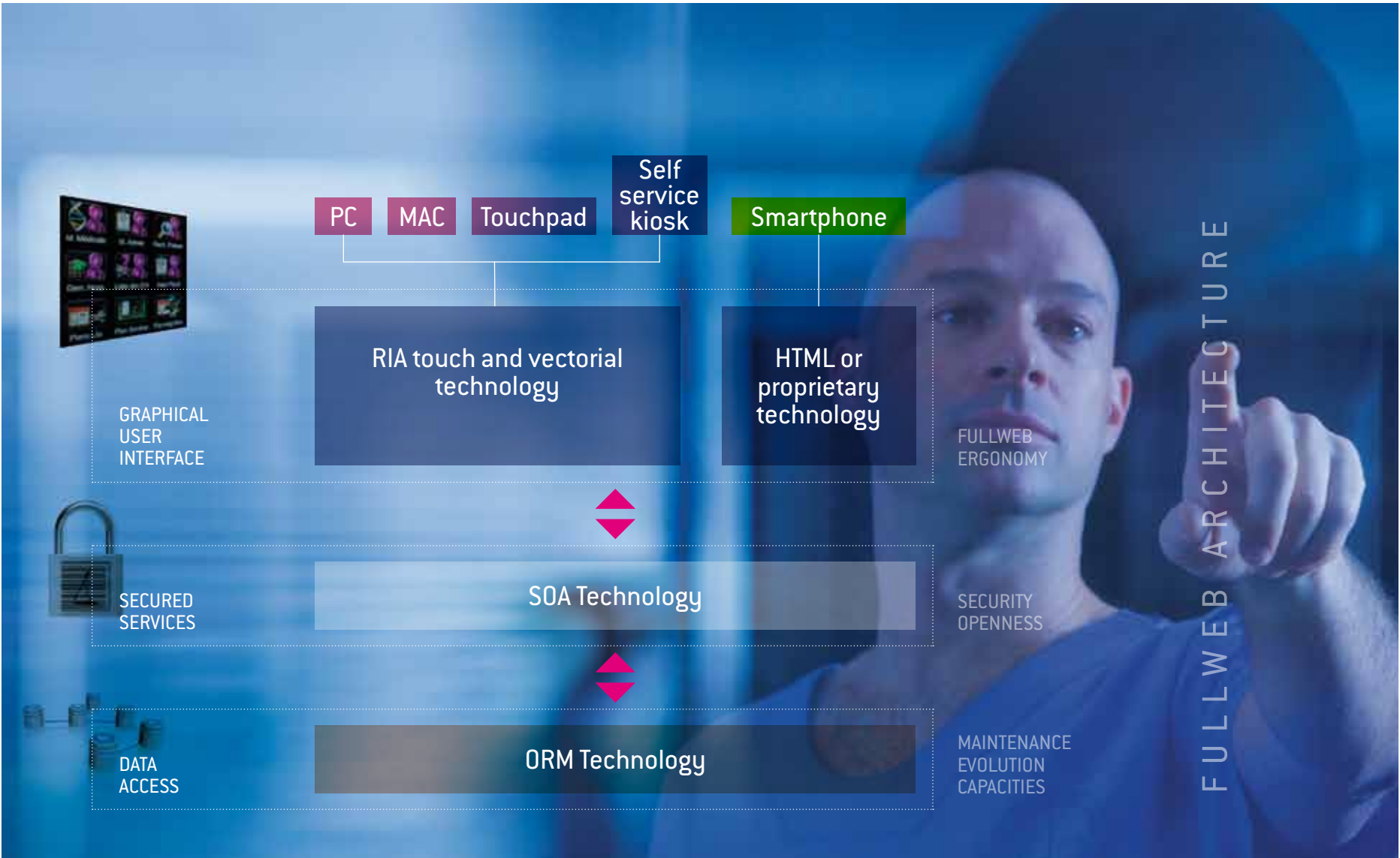
Housing

MEDICO SOCIAL

Futura Smart Design®: **Architecture**

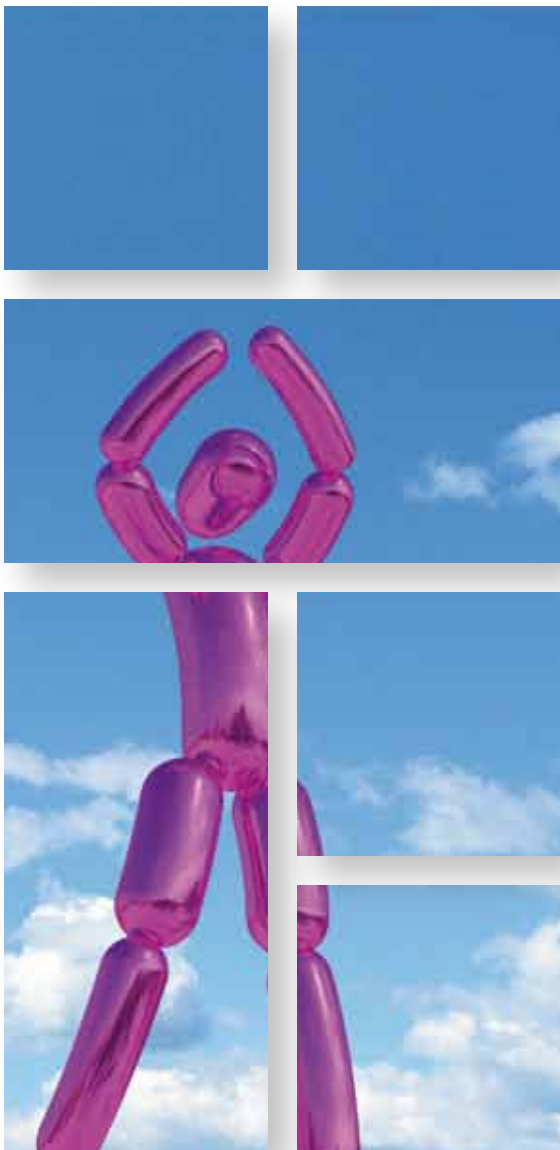
Futura Smart Design® is built upon next generation architecture: N-Tier, FullWeb 4.0, vectorial and touch GUI providing:

- **Optimized maintenance and upgradeability:**
Data access relies on an ORM (Object-Relational Mapping) tool allowing work on business objects: Patients, Contacts, Addresses, etc., rather than on relational tables with SQL querying. This ORM technology, pertaining to object-oriented programming, endows Futura Smart Design® with far better maintainability than most other Information Systems. Regarding evolution capacities, addition of new entities through the ORM is much more secure and reliable than addition of new tables to the database.
- **Improved security and interoperability**
The SOA (Service Oriented Architecture) architecture operating WebServices, allows centralization and sharing of all major transverse functions such as rights management, audit trail, etc. Due to its SOA architecture, Futura Smart Design® can be easily interfaced with external data sources, through an ESB (Enterprise Service Bus). All major healthcare interoperability standards are included: HL7, DICOM, H'Prim, etc.
- **Unequaled design and ergonomy, multi-platform**
Vectorial and tactile technologies provide Futura Smart Design® with major innovations, such as Open Mosaic, ensuring optimal handling, whatever the support type, local or mobile: PC, Mac, multimedia kiosk, touchpad, SmartPhone, etc.



Interoperability: communication and sharing

- Futura Smart Design®, with its SOA architecture and ESB communication, is a fully integrated solution, remarkably open and interoperable:
- Futura Smart Design® includes all major healthcare communication standards: HL7, DICOM, H'Prim, etc;
 - The ESB allows easy deployments /set-up of connections to external sources: on-line HMR, epidemiology surveillance networks, etc.
 - Futura Smart Design® communicates through the ESB with all the major administrative channels for accounting and financial management, HR or invoicing. Connections can be either one- or two-way.
 - Futura Smart Design® includes a standard HL7 DICOM connector, communicating with PACS (Picture and Archiving Communication System). Direct access to original images present in patient medical records is possible within the Futura Smart Design® portal.
 - Futura Smart Design® communicates with LIMS (Laboratory Information Management Systems) in uni or bi-directional mode. Biology results are added automatically to patient medical records, and are available from the portal in real-time.
 - Futura Smart Design® communicates with monitors and other equipment of the various specialties, either on a peer-to-peer basis, or through aggregators. Remote viewing of monitoring parameters is aided by vectorial technology.



Services

- Installation**
Futura Smart Design®, as a FullWeb solution, is available as two modes: in-house or SaaS. In-house installation is on customer premises, on their own server, network and computers, following Calystene's technical recommendations. In SaaS mode, Calystene ensures hosting, exploitation and disaster recovery of the Futura Smart Design® system.
- Consultancy, Training, Coaching**
Since 1992, Calystene has capitalized on unequalled expertise and has developed original and efficient methods in the fields of consultancy, installation and deployment of its integrated healthcare IT solutions, for all sizes of institutions, from small- to middle-sized hospitals, to larger multi-site institutions.
Success of a new IT system depends not only on software quality and their functional coverage, but also on change management, and user training and coaching.
With Futura Smart Design®, the next generation healthcare IT solution, Calystene strives to overcome the difficulties that have led clinics or hospitals to only limited success or even failure of their informatization projects. With Futura Smart Design®, it is not the user who has to adapt to the system, but the system that adjusts to the professional usage. Calystene gets to know customer needs, advises and helps them to adjust and regulate the system optimally.
Design and ergonomics throughout Futura Smart Design®, have been studied for easy handling, resembling latest generation Smartphones. Thus, training is reduced, compared with previous generation systems.
Workplace start-up coaching limits direct and indirect costs.
- Technical assistance and Maintenance**
Futura Smart Design®'s architecture results in easy maintenance. Advanced log management and audit trail allow automatic incident feedback, and aids the search of cause. Corrections are quick and secure, due to the multi-layer technology with complete division of data, object entities, services and GUI. If code-source requires modification, Agile methodology with short iterations, guarantees rapid incident resolution. Fully qualified technicians and engineers reinforce the assistance and deployment teams as part of Calystene's Customer Service to accompany the launch of Futura Smart Design®.
Futura Smart Design®'s original R&D team is joined by other in-house experts who have transferred from the previous system to the new one, and is reinforced by new engineers mastering these new technologies. Thus, new components (Web Services) are added on a regular basis to the Futura Smart Design® portal, in response to new customer needs or to new legal or statutory requirements, or by our vision.
For more details, please contact us.

Success is a science; if you have the conditions, you get the result.

Oscar Wilde

FUTURA
SMART
DESIGN

The main purpose of the CATALYZIS Group is to offer each of its subsidiaries greater visibility in their respective markets, greater competitiveness, strengthening financial surface. The complementarity of products and services for healthcare information satisfies all aspects of market demand without dispersion of expertise or competence of each entity.



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