

alphaSIP

Digital Diagnostics

From semiconductors (nanochips) to medical diagnostics

Corporate Presentation Barcelona, 15 feb. 2012



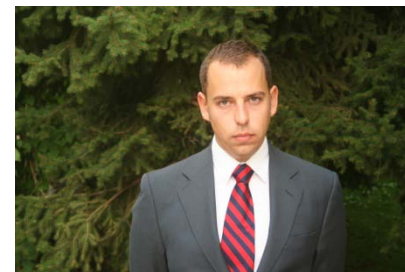


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Digital Diagnostics

SAFEHARBOUR: Part of Oral Presentation. AlphaSIP
Proprietary Info Disclosed 2012
at Biotech Showcase, Available
for Internal Use of Biotech
Attendees without NDA. More
info available upon request at
contact information. Thanks



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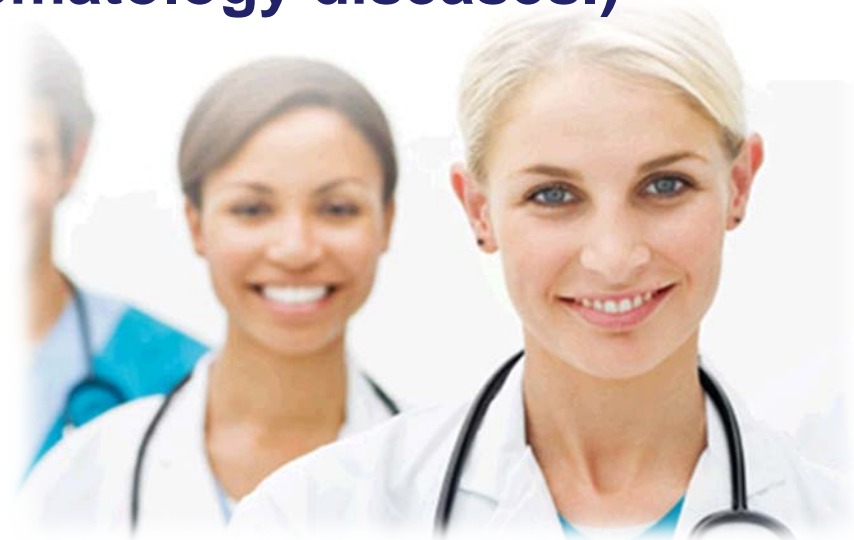




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INTRODUCTION

AlphaSIP's goal is to develop medical diagnostic chips based on carbon nanotubes & magnetic particles to detect blood problems (mainly Cardiovascular and Hematological & Oncohematology diseases.)

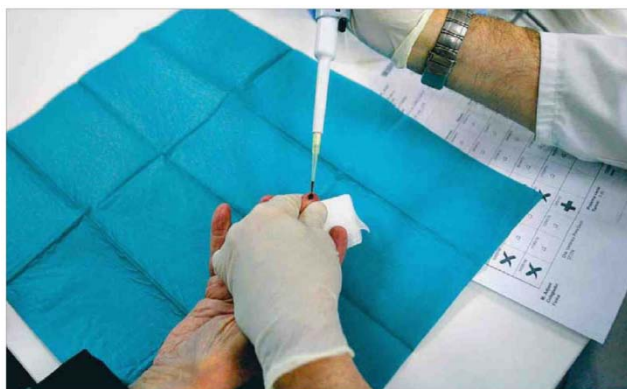


- Chips sensors for detection of Cardiovascular & haematology disease with 2 platforms **devices (i) nanotube-based & (ii) magnetic particle.**
- **Born global company founded 2008 US (Boston) & Spain (Zaragoza)**
- **Leading 3 Mill USD clinical essay for CVD validation of the chips**
- **Originated 30 Mill USD EU PPP with leading companies (J&J, BOSCH, NXP, Toppan) & Spanish Research development projects**
- **Strong IP Position licensed (400+ patents) exclusive rights CVD & Haematology worldwide from Harvard SpinOff (Nantero) by aszenszor inc.**
- **Member of Governing Board ENIAC (JTI EU Comission, PA's, Aeneas)**
- **Family backed business, with professional management and researchers from Harvard, Complutense University, CSIC CNM, & Zaragoza University**

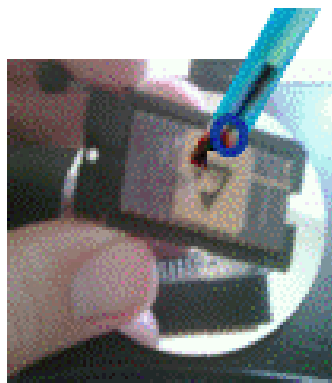


PRODUCTS EASY TO USE, CVD CHIP LIKE GLUCOMETERS

NANOCHIP FOR ACUTE MYOCARDIAL INFARCTION

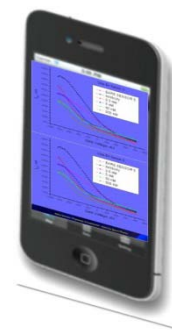
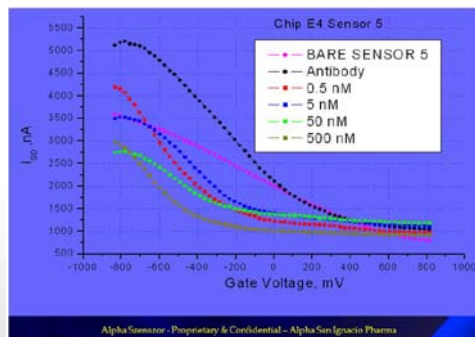
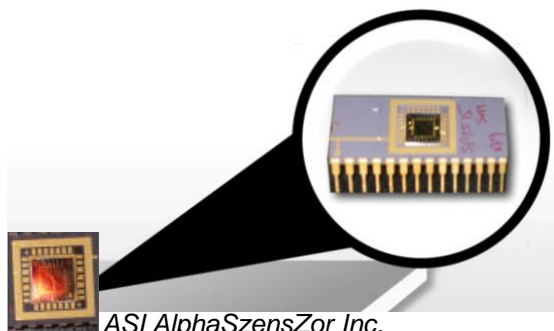


Una pacient se sotmet a un dels controls periòdics per ajustar la dosi de Sildenafil a la unitat de l'hospital Vall d'Hebron III JOSEP LLORENÇ



**Digital Signal
Read out
results**

The ASI nanoprocessor, processes the digital signal inside the chip





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PRODUCTS / PLATFORMS CARDIOSIP

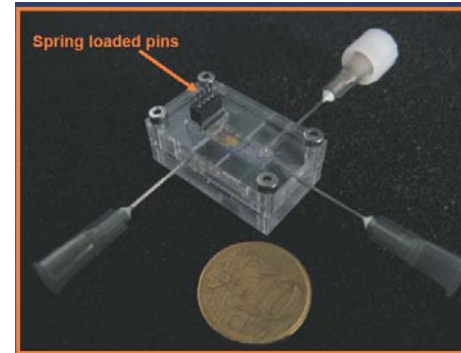


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CardioSIP: Potential partnership with Leader IVD Company for Exclusivity or Non Exclusivity (TBD) for Worldwide Distribution on Cardiovascular field of use.

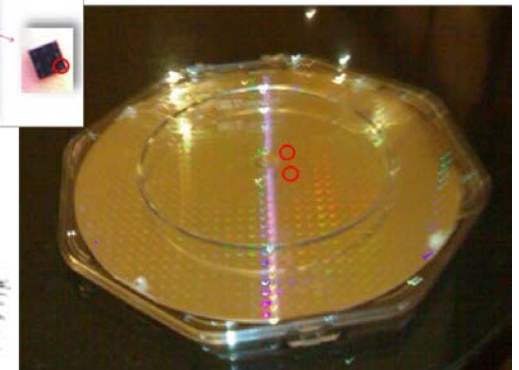
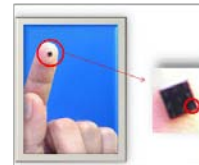
✓

ARCATECH: Immunoassays Capture Magnetic



✓

FET ASI: Carbonanotubes Detection





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Fraunhofer

Institut
Zuverlässigkeit und
Mikrointegration



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Johnson & Johnson

cea **leti**



BOSCH

Invented for life



boschman

UMC  St Radboud

im Institut für
Mikrotechnik
Mainz GmbH

ela medical
A SORIN GROUP COMPANY

i+CS
Instituto Aragonés
de Ciencias de la Salud

NXP
founded by Philips

 tibotec virco

CNM
Centre Nacional de Microelectrónica

Atos

Innovative solutions in hematology
Diatron



CSIC




M Ű E G Y E T E M 1 7 8 2

MINISTRY OF FOREIGN AFFAIRS
OF THE REPUBLIC OF HUNGARY

TOPPAN
TOPPAN PHOTOMASKS, INC.

DCU
Dublin City University

silex
MICROSYSTEMS

GT
CALWAY TOOL & MOULD LTD.
PRECISION MOULDMAKERS

STOKES BIO



AUDIT DIAGNOSTICS

Your complete Diagnostics Systems Partner

microfluidic
ChipShop

LEAD R&D: CAJAL4EU
PROJECT ENIAC 30M USD

AMPEROMETRIC TECHNOLOGY "ARCATECH"

Integration Arcatech Sensor CVD

Design of sensor is still evolving, specifications are therefore not yet finalized.
A flexible flow cell has been developed and is currently used for experiments.

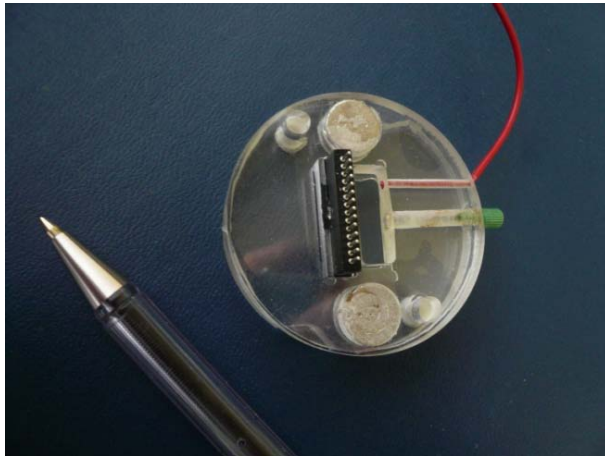


Fig. 1: Sensor holder fabricated by CNM.

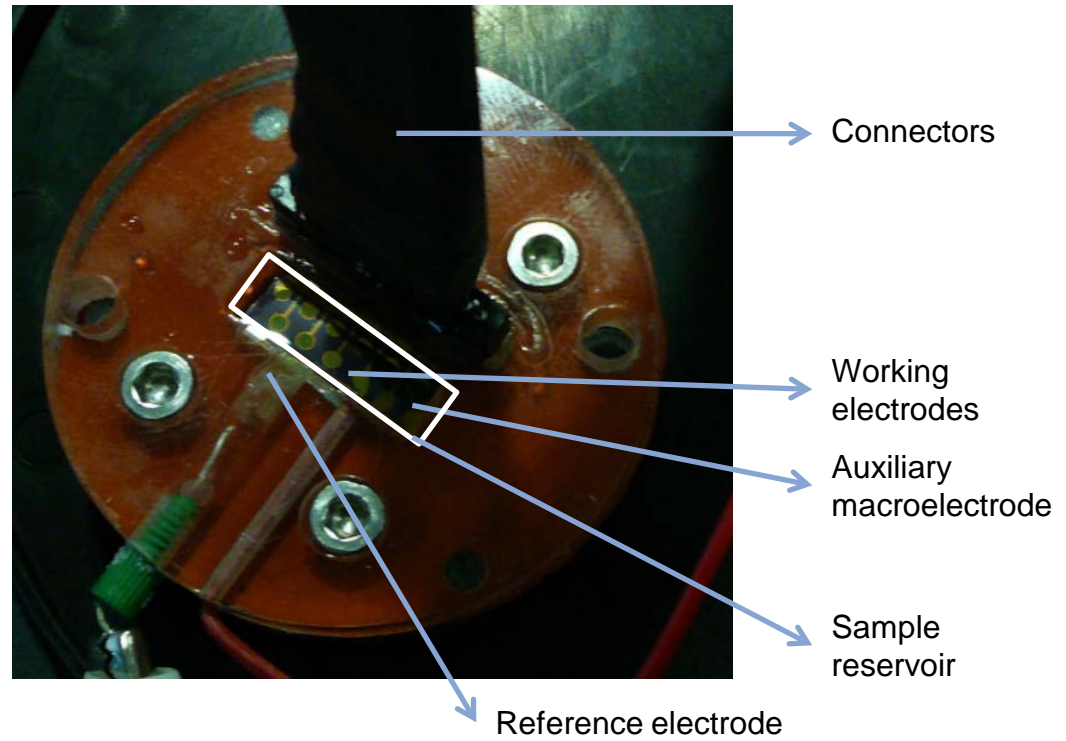


Fig. 2: Details of sensor holder.



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INTELLECTUAL PROPERTY CNTS NANTERO FIELD EFFECT TRANSISTORS

System
Sensor Device Nantero IP
Electronic Integration Nantero IP
Creation of Films, Fabric & Patterning Nantero IP
Formulation Nantero IP
Basic CNT Materials

- Blocking IP
- Enabling IP

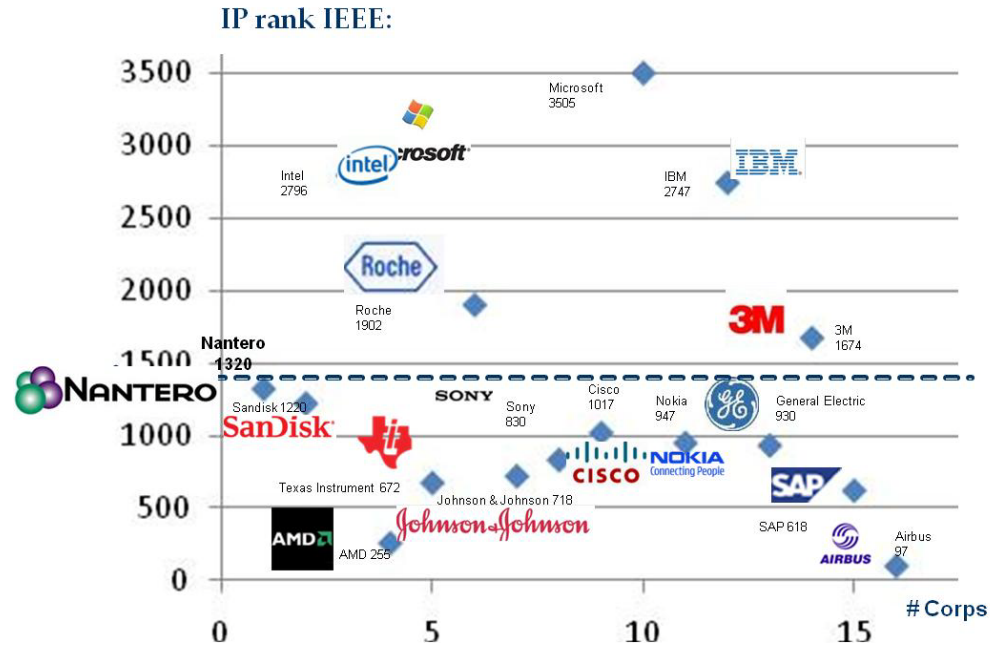
Corresponding Nantero IP

US 2005/0065741 A1
US 2006/0125033 A1
US 2005/0053525 A1
US 2006/0237805 A1

US 2006/0128049 A1
US 2006/0183278 A1
US 6,911,682 B2
US 7,071,023 B2
US 7,112,493 B2
US 6,979,590 B2
US 7,112,464 B2
US 6,924,538 B2

US 6,706,402 B2
US 6,942,921 B2
US 6,706,402 B2
US 6,835,591 B2
US 2005/0101112 A1
US 2005/0128788 A1
US 2005/0191495 A1
US 2004/0159833 A1
US 2005/0058834 A1
US 2005/0058797 A1

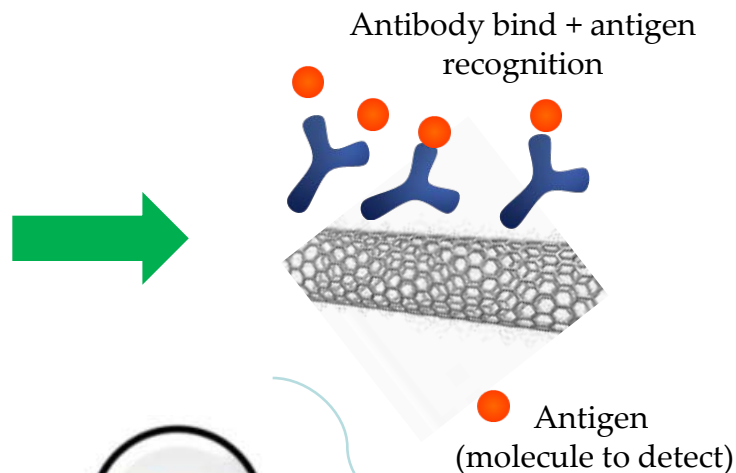
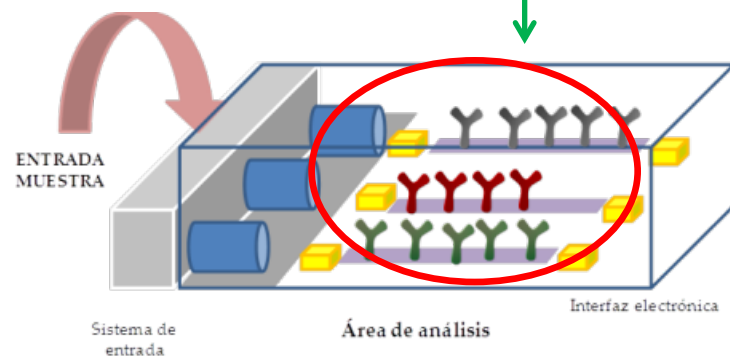
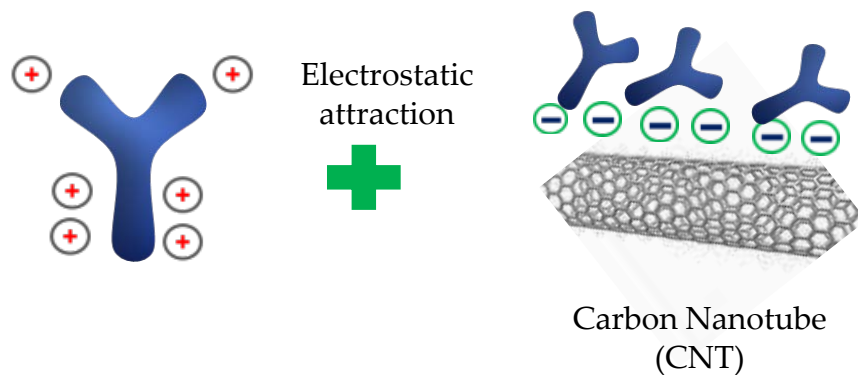
US 2005/0269553 A1
US 2005/0269554 A1
US 2006/0204427 A1



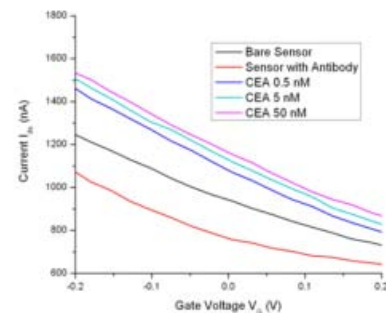
The IEEE (Institute of Electric Engineers, 375.000 patrons in 160 countries) ranked in its January 2010 report the Nantero IP in 2nd place worldwide in the semicon industry and top 10 in overall industries

<http://spectrum.ieee.org/static/patentpower2010>

CVD CNTs TECHNOLOGY



DIGITAL SIGNAL



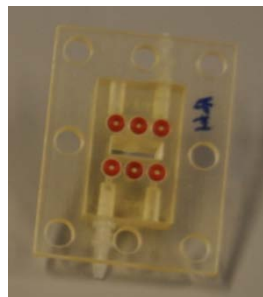
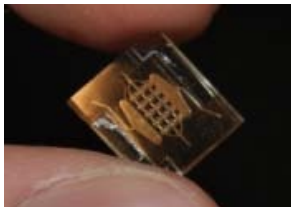
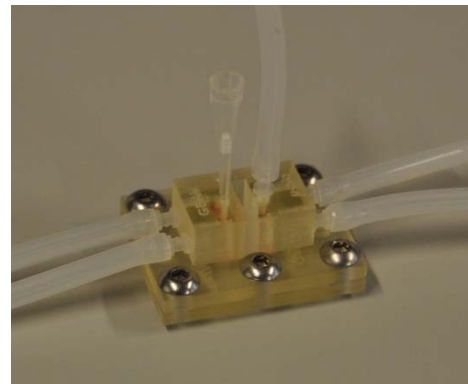
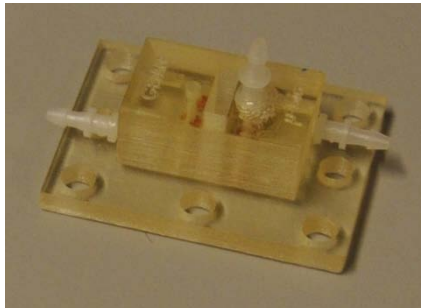
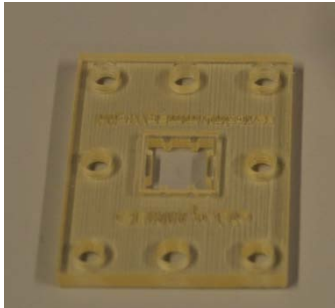
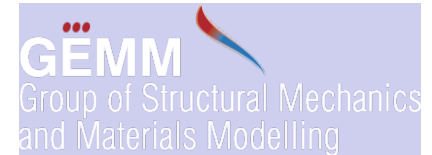


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RAPID PROTOTYPING SERVICE FOR COMPANIES

✓ High quality & custom tailored service

- Rapid prototyping based packaging
 - Fast way to fabricate packaging prototypes (1 day process)
 - Long list of available materials (some biocompatible)
 - Enough resolution for fluidic chip packaging applications





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CVD CLINICAL TRIAL 2012-15 Validation "Nanocardio" 3,3 USD Mill

- **USD 3.3 million** public-private partnership project, with 7 partners, funded by Spanish Ministry of Science in a competitive process (3% success rate)
- Goal: to develop clinical validation for combined genosensors and immunosensor for diagnosis Cardiovascular diseases and Pneumococcus
- AlphaSIP and **Advanced Digital Design** (chip design company energy harvesting) participate as private companies



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ADD
semiconductor

- Several of the most prestigious **hospitals and technological research Institutes** in Spain participate on the public side:

- **Germans Trias i Pujol Hospital, Barcelona**
- **Ciber-BBN Network (Biolabels)**
- **CNM Barcelona (semicon)**
- **CIB (Hospital La Paz, Madrid)**
- **ICS Aragon (Hospital Servet, Zaragoza)**



ciber-66n
Centro Investigación Biomédica en Red
Biotecnología, Biomateriales y Nanomedicina



FOUNDERS TEAM



Dr. Javier Roncalés: Cofounder. More than 30 years experience in medicine. He created several blood banks and has taken care of more than 1 M patients in Barcelona.



Dr. Miguel Roncalés: Phd Finance . 14 years of diversified experience in biotech and nanotech Venture Capital, as investment director. He worked at Telefonica Group after working at McKinsey and ADL



Dr. F. Xavier Muñoz: PhD in Physics and Chemistry. Manager of the BioMEMS grup of CNM-CSIC. Counts with more than 12 patents and has participated in many national and international projects. CTO of AlphaSIP



Mr. Alberto Querejeta: Babson MBA. 18 years experience in Corporate Finance. Was at Deloitte for 5 years and worked during 7 years in Telefonica. Since 2008 he has been focused on e-Health. Actually CFO



Dr. Brent M. Segal: AlphaSIP Scientific Advisory Board President. Currently Senior Advisor of Lockheed Martin. He was COO of Nantero. Accomplished to raise \$31.5 M in three rounds. Co-author of more than 120 patents.



Dr. JM Pingarrón: full Professor of Analytical Chemistry Complutense & at Royal Spanish Society of Chemistry in the FECS. Coordinated more than 20 competitive research projects, over 210 publications. and in 4 Editorial Advisory Boards (*)



Mr. Jose Manuel López : MBA in M.I.T. , PADE from IESE, former Partner with Russell Reynolds, EM Engagement Manager with McKinsey. Formerly at Goldman Sachs and Procter & Gamble. Actually COO AlphaSIP leading US expansion



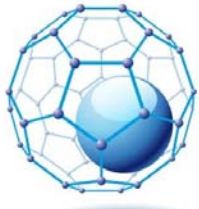
Mr. Terry Lobel: Biochemist, Methodologist, Master IESE. Country Manager Atos Worldline Iberia, Member of Atos Iberia Executive Committee, Partner Atos Consulting, Dir. Of Business Development HP Iberia, Manager McKinsey & Co, Senior Mg Consultant ADL,



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COFOUNDERS 2008





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