

Mid-term Workshop “Personal Genetics in the Clinic”

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National Technical University of Athens



Project Idea

Tassos Tagaris, Ph.D – ICCS



Administrative Information

- Project Acronym: EUROGENE
- Project Title: An integrated high secure cross-border platform for the delivery of optimal personalized lifestyle recommendations based on genetic analysis
- Contract: eTen Market Validation: 046310
- Budget: € 1,730,335
- Funding: € 1,123,839
- Starting date: 1st January 2008
- Ending date: 30th June 2009



Market Approach

- *EUROGENE* targets individuals taking a proactive role in their health, wellness, and disease prevention, and their practitioners
- It is a service that will be primarily provided to
 - clinics, or other health & wellness centers
 - Healthcare practitioners specialising in prevention
- Market Analysis focuses on UK, German, Italian, Greek and Spanish Markets

Let food be your medicine...

Combine

- diet,
- Lifestyle
- genetic profile

translate the
genetic research

Deliver

- Short advices
- practical information
- science-based recommendations



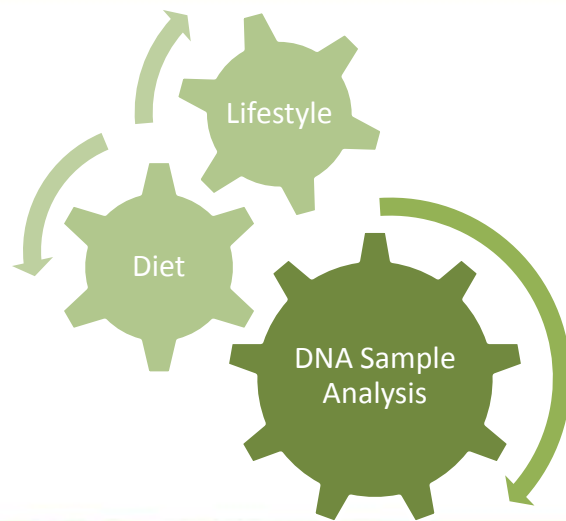
help each person **individually** in order to improve its nutrition and lifestyle

The idea...

set up e-services to provide nutrigenetic testing services via both practitioners and/or DTC

Starting Point

- SCIONA's MyCellf Kit and existing Service
 - Kit for taking a biological sample for DNA Analysis
 - Diet & Lifestyle QA



Service

- Personalised health & nutrition recommendations
- Reduce risk factor levels
- Identify the preventative interventions

• Delivery

- Network of collaborating GPs
- DTC

Goals...

- Add value to the existing products providing a more attractive way to inter-communicate with customers
- Create new products and sub-products
 - customer follow-up
 - Use Biomarkers
 - new updated personalized recommendations
- Reduce the cost of the products & Shorten product delivery times
- Enable multilingual capabilities for the whole service (both the product and the user interface)

Overall Service Enhancements

Instruments

Original Service

- Paper based Questionnaires (English)
- Swabs for DNA sample
- User Instructions (English)

Eurogene

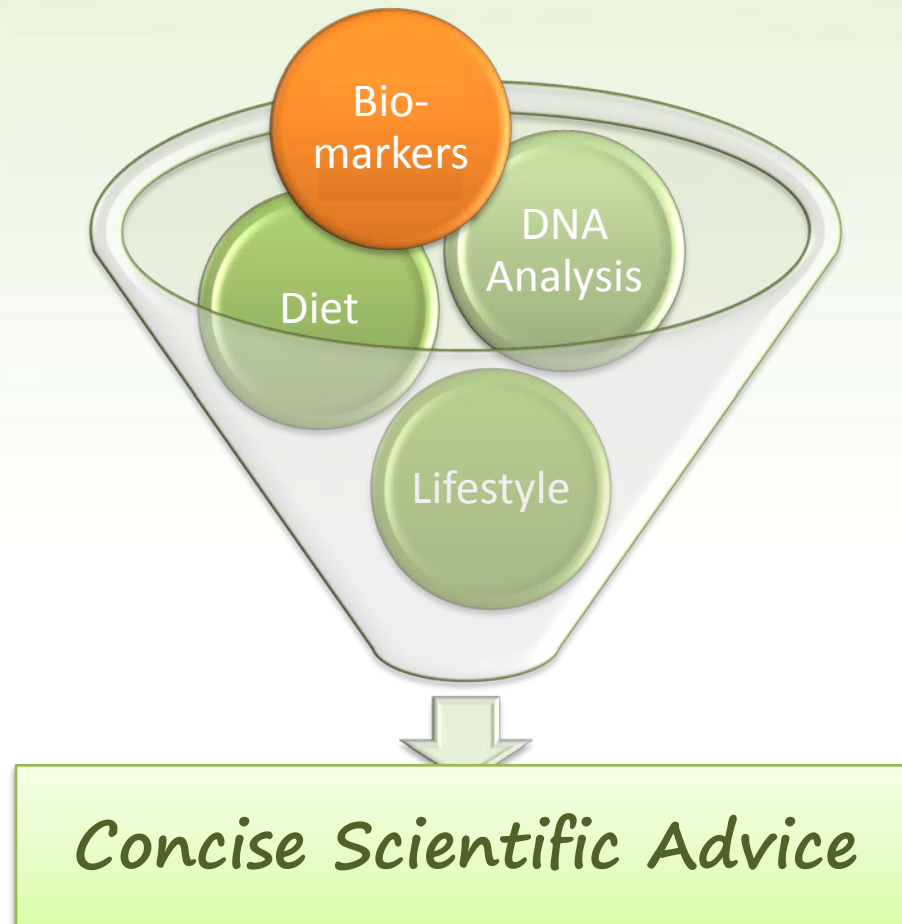
- **Online** Questionnaires in English, Spanish, Italian, German and Greek
- Swabs for DNA sample
- **Biomarkers**
- User Instructions in 5 languages

Services

- Paper booklet with a set of advices (once)
- PDF documents to the clinician using secure FTP
- Follow-up? Nope!!!

- Secure data collection and delivery
- Clinician tool to manage patients
- Online PDF files for both Clinician and Patient
- Follow up QA and **Real time** advices!

Scientific Enhancements – Rules Engine



Technology “Enhancements”

- Use of Web Services and SOA
- Use of Secure Delivery Channels
 - Client Certificates, SLL, Data Encryption
- Multilingual Environment
- Exploitation of Interoperability Standards
 - HL7 messages to access biomarker results
 - CDA reports
- On Line Questionnaires
- Real Time Follow-up advices!



The Eurogene service

a. the Mycellf kits of Sciona:

- The Questionnaire (diet + lifestyle),
- the swabs to get the DNA sample and
- consent form.

b. The Portal that supports all kind of users^[1].

- Patient & data management
- Reports and Advices.
- Sample monitoring

c. the Reports to the GP and the individual.

- the outcome of the whole procedure that is delivered through the portal to the GP and/or the individual





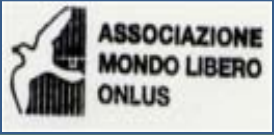







[1] GPs, the patients/individuals themselves and the service provider

How we've done all this

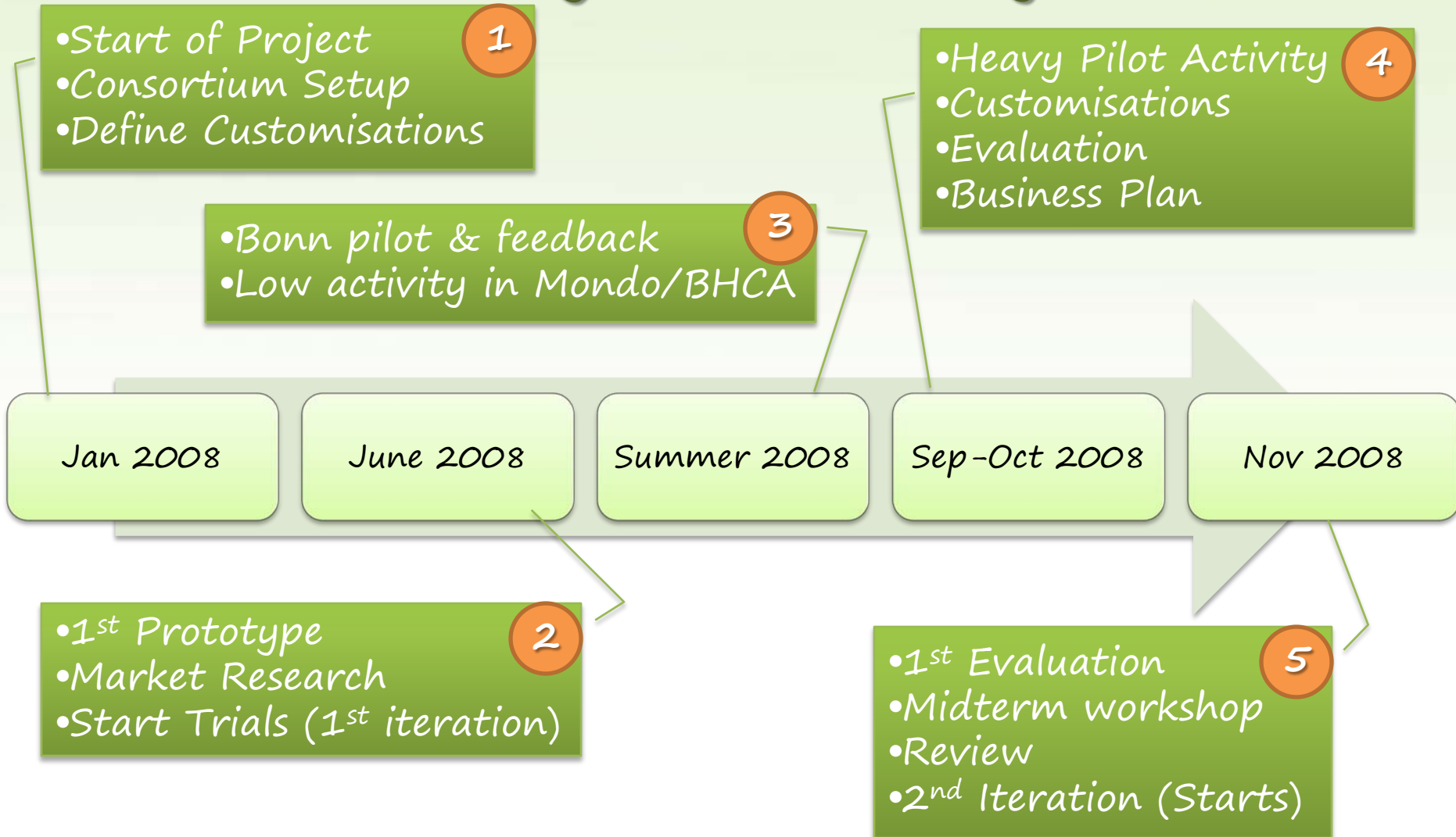
- A company that offers such a service with a profound scientific background
- A major technological partner to build eServices
- Pilot sites to trial and evaluate the new e-Service
- A Market Oriented Partner to investigate Market Opportunities and plan the Business...

- Excellent collaboration among all the partners!

The consortium...

Partner	Country	Role in the Project	Short Name
		Administrative Coordinator Customisations - Technology	ICCS
		Scientific and Pilot Coordinator Service Provider	Sciona
		Pilot - Focus: CVD (~75 patients)	Mondo
		Business & Market Opportunities	INI
		Pilot - Focus: Obesity (~100 patients, 50 obese vs. 50 lean)	Bonn
		Pilot - Focus: Type II Diabetes & CVD (~75 patients)	BHCA

Eurogene until today



Problems faced so far...

- Translation of Diet Questionnaire
- Integration of Biomarkers in the Modeler
- Convert paper based QA to an On-line Questionnaire (different from paper – drop down lists, radio button etc)
- Ethics, Legislation => Security

DNA wants its ...Privacy! (& Security)

- Anonymity! (Pilot sites' request: No names in the Database)
- All data transmission under the SSL protocol
 - Secure Channel
 - 128 bit Encryption on the data
- Certification Server & Client Certificates on Clinicians' computers
- User name and password (no memory on the browser)

What is next

- 2nd iteration of pilots
 - Nov, Dec: Preparation of 2nd trial to be launched on Jan
 - Fully functional eService (enlightened of 1st iteration feedback)
 - User Friendly GUI
 - Enhanced Security
 - Integration to Medical Records
 - CDA Reports
 - Enriched questionnaires
 - model for Biomarkers
 - Individuals
 - 2nd iteration: Jan, Feb, Mar 2009
- Involve more Clinicians

A glance at the future...

- 10 (?) years from today...
 - DNA will be known for each of us
 - Genetic research & associations of genes with diseases will have gone deeper
 - Services of providing advice and consultation based on the individuals' DNA + Environment (diet, lifestyle, Biomarker results) will be offered
 - No need for DNA Analysis or SNPs
 - Need for “content makers” i.e. Companies/communities with a strong scientific background that can reliably interpret such information and convert it to practical and easy to follow recommendations!

Thank you for your attention 😊
tassos@biomed.ntua.gr

