FOODSNIFFER
FP7-ICT #318319

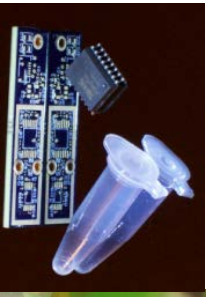
FOOD Safety at the point-of-Need via monolithic spectroscopic chip identiFying harmFul substances in frEsh pRoduce

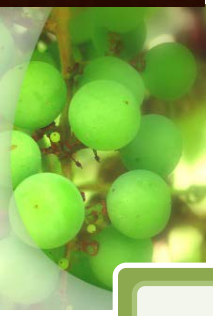
MNBS 2014 – Innovation & user involvement session
Toulouse, 22 October 2014

SEVENTH FRAMEWORK PROGRAMME

Presentation of the project's goal and consortium

THE FOODSNIFFER SOLUTION TO FOOD SAFETY





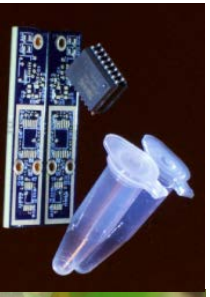
- ✓ A miniaturized fully-integrated optoelectronic chip
- ✓ Packaged into a single-shot disposable cartridge
- ✓ With a smart phone controlled reader
- ✓ For label-free detection of pesticides residues, mycotoxins and allergens in food at the Point-of-Need

Users' Needs and Unique Value

Who are FOODSNIFFER Users ?

Under current EU legislation, **ALL FOOD OPERATORS** are responsible for the safety of the food they produce, transport, store or sell. They are therefore

ALL POTENTIAL FOODSNIFFER USERS




Agricultural Production


Harvest


Storage


Transport

Border controls


Processing


Retail

In the project, two discrete Work Packages focus on:

Market potential
- End-users
- End-user needs

How to get there
- Exploitation Plan
- Dissemination Strategy

Inform & involve

Decision Makers:
Retailers
Regulators
Food Producers
Trade Associations

To obtain feedback for innovation process

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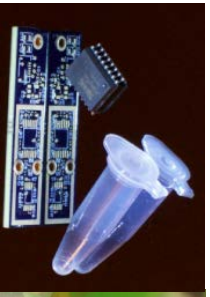
Users' Needs and Unique Value



Addressing user needs in the innovation process

- Robust handheld system
- Accessible sample preparation
- Highly sensitive assays & detection system to meet regulatory limits
- *Pricing commitment obtained* but **very difficult to assess acceptable pricing**

Communicating FOODSNIFFER's Potential

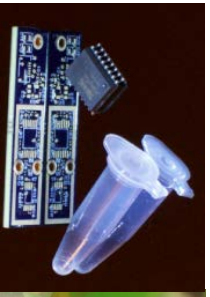
- Press releases
  - Website and social media
    - Conferences, trade fairs
      - Sample prep procedure Video
        - Interactive Smartphone App

Visualisation of Commercial Device

R&D Project
3 years
EU Funding

Combined Funding

PRIVATE FUNDING



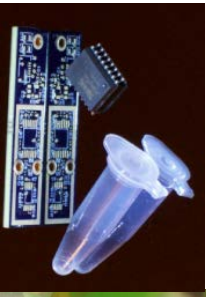
Tapering of Innovation Phase
one to two year phase

- Milestone for Private Funding
- Proposal for Public Funding

- GO/NO-GO Private Funding

Industrial *Strategic* committed during the Proposal Phase
Even Financial Investors to engage early?

Innovation process and Road to exploitation



Selection of targeted users (from food industry and related service providers)

- Choice of 2-3 showcase applications for the FOODSNIFFER solution
- Corresponding to « niche » markets – accessible to innovative technology, well-identified needs

Develop pilot implementations in EU Market

- Pilot studies of FOODSNIFFER demonstrator by the Consortium
- Additional pilot studies by members of Advisory Committee

First steps to commercialisation

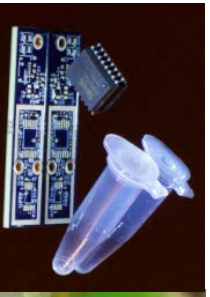
- Penetration into identified « niche » markets via commercial contacts and decision makers identified during project phase
- Initial sales through industrial partners of project

Market expansion and business growth strategy

- Investigate potential food safety targets for further applications
- Access new markets

Innovation process and Road to exploitation

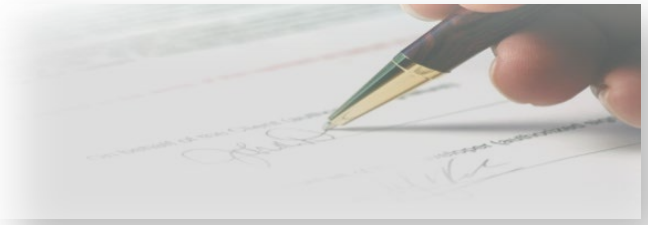
3 different product versions:

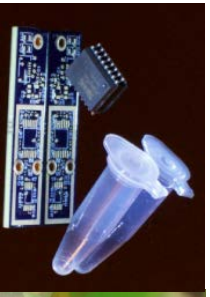


Version 1	Version 2	Version 3
Professional	**Semi-professional**	**Mass-user**
Bench-top	Bench-top or transportable	Smartphone
“In lab”	“out of lab”	“in field"

Validation of industry or mass-user results = ongoing role of lab

Innovation process and Road to exploitation

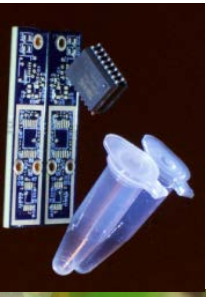


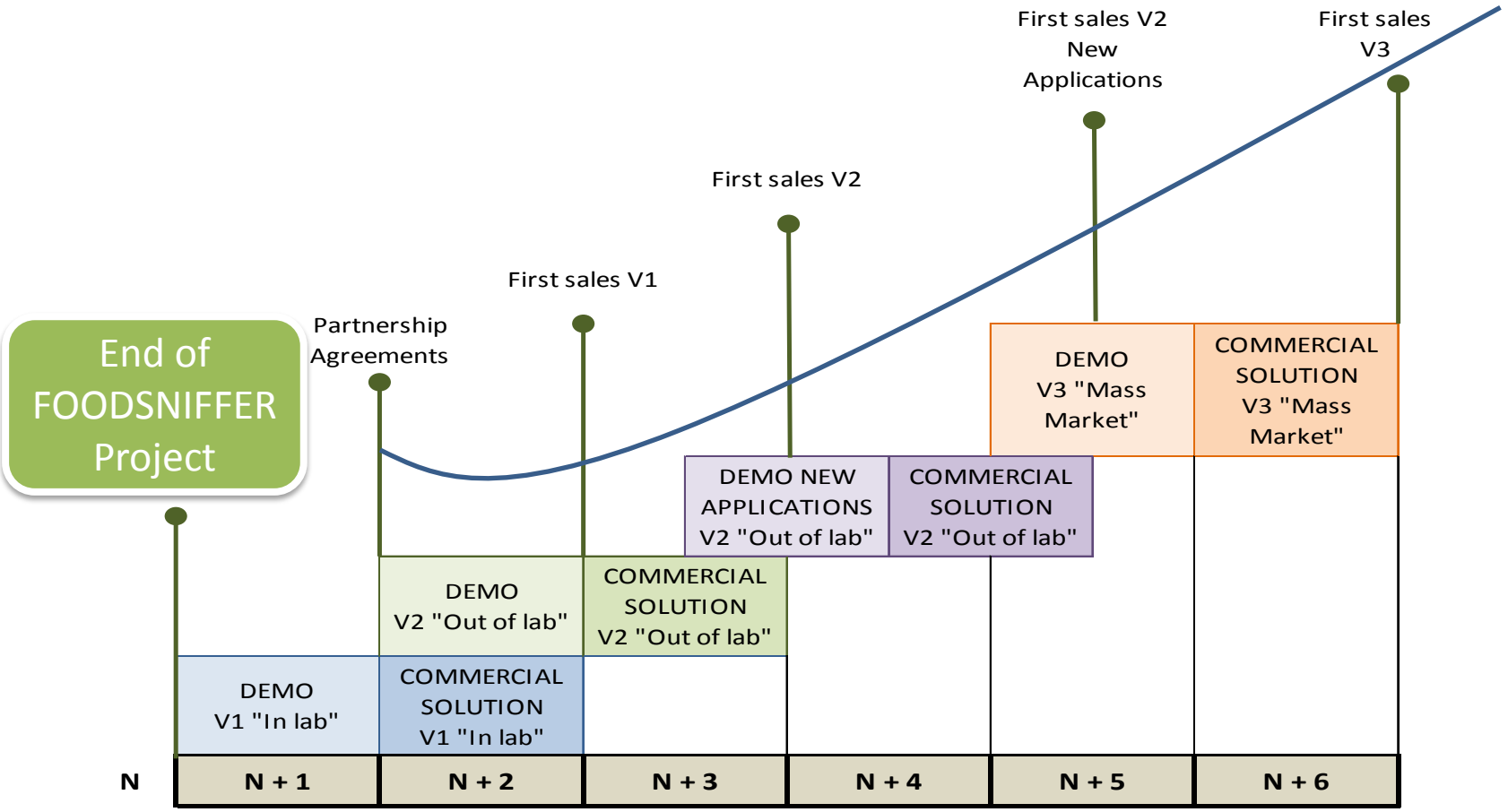


Partners' involvement in road to exploitation

- Safeguarding of partners' IP rights (Pre-Existing Know-How and developed Foreground Knowledge) through a Consortium Agreement
- Individual ownership of specific components of the FOODSNIFFER device (chips, microfluidics and pumping technology, reader, Smartphone app, …)
- Licensing of the components to a legal entity (FOODSNIFFER IPR Holdings) for commercial exploitation
- Regime for use including profit sharing to be established
- To ensure coherence and proper focus on the end-user requirements, we will involve professional commercial managers in the commercialisation process
- At the same time the patent landscape is becoming more active up with a lot of offensive and defensive activity. Because of the strategic importance of this space, it may become similar to the mobile phone industry.

Distance to market



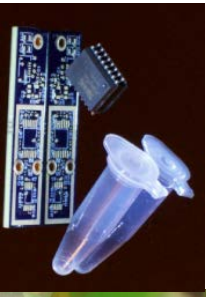


Distance to market

- The project is already engaged with prospective customers. Business requirements are defined, include specifications, functionality, target pricing and volumes.
- The steps to the market were defined by the food-experts in the consortium and the access they gave to their network.
- The process was challenging to manage because of the perception of some end-users was that progress is slow or that the TRL was too low.
- Some users *fell out*, complaining that they wanted something with which they could ***hit the ground running***.
- We have also seen the market of supply of portable rapid analytical method s*hoot up* from the pre-project and early project phase (two years ago). ***Effect on prospective customers.***
- Managing this process is challenging in the absence of being able to deliver what end-users regard as concrete results now.
- Having major potential end-users in the consortium is a major benefit.

Distance to market

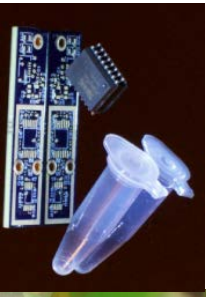
- The funding required to develop a *proof-of-product* is around 1,5 million euros.



- To develop a system proven in an operational environment, would require an additional four million euros.
- These costs are based on outsourcing proposals for development of the chips and their fabrication, the supporting hardware, software and the biochemistry and also the costs of marketing and sales and overheads.

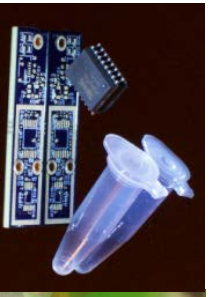
- Suitable manufacturers both of the silicon chips and the electronics and other hardware are known to the consortium.
- Several members in the consortium have strong commercial ties to the intended market and to distribution channels in these markets

Key Take Home Messages



Partners' involvement in road to exploitation

- Bring commercial players and those with industrial networks into your consortium
- Define a **validation** that has pulling power for finance and strategic companies
- *What you eat will decide how you die*
- Engage early with end-users to guide your R&D/Innovation
  - but at the same time control expectations of deliverables
- Professionalise your post-project exploitation or outsource it completely
- Plan on converting your stakeholders in industry to committed users -
  - sign Letters of Intent or Interest
  - or better still to become strategic investors.
- Earl Stage Investing is difficult, especially in the EU, so be prepared to enlist help early and make your proposition is compelling
- Select your focus and specialise



THANK YOU FOR YOUR ATTENTION