



# ELAN

European and Latin American  
Technology based Business Network

[www.elannetwork.org](http://www.elannetwork.org)

## IS ANALYSIS FOR BIOTECHNOLOGY SECTOR AT COSTA RICA



This project is funded by the European Union.

# Template: Delineation

## Products

- . Agro industrial products improvement
- .. New medicines and compounds
- ... Support to food companies to improve and get cheaper materials

## Technologies

- . Advanced instrumentation (TEM, AFM, DSC)
- .. Biological tests and bioreactors
- ... laboratorial and physics laboratory tests
- .... Bionanocompounds

## Markets

- . Medical and pharmaceutical companies
- .. Food companies
- ... Agriculture improvement



# Template: Ambitions & Pathways

## Ambitions (long term)

- . To be a high developed country through new biotechnology developments
- .. To improve medical/food/agriculture national products
- ... To become a central point at biotech networks

## Technological pathways

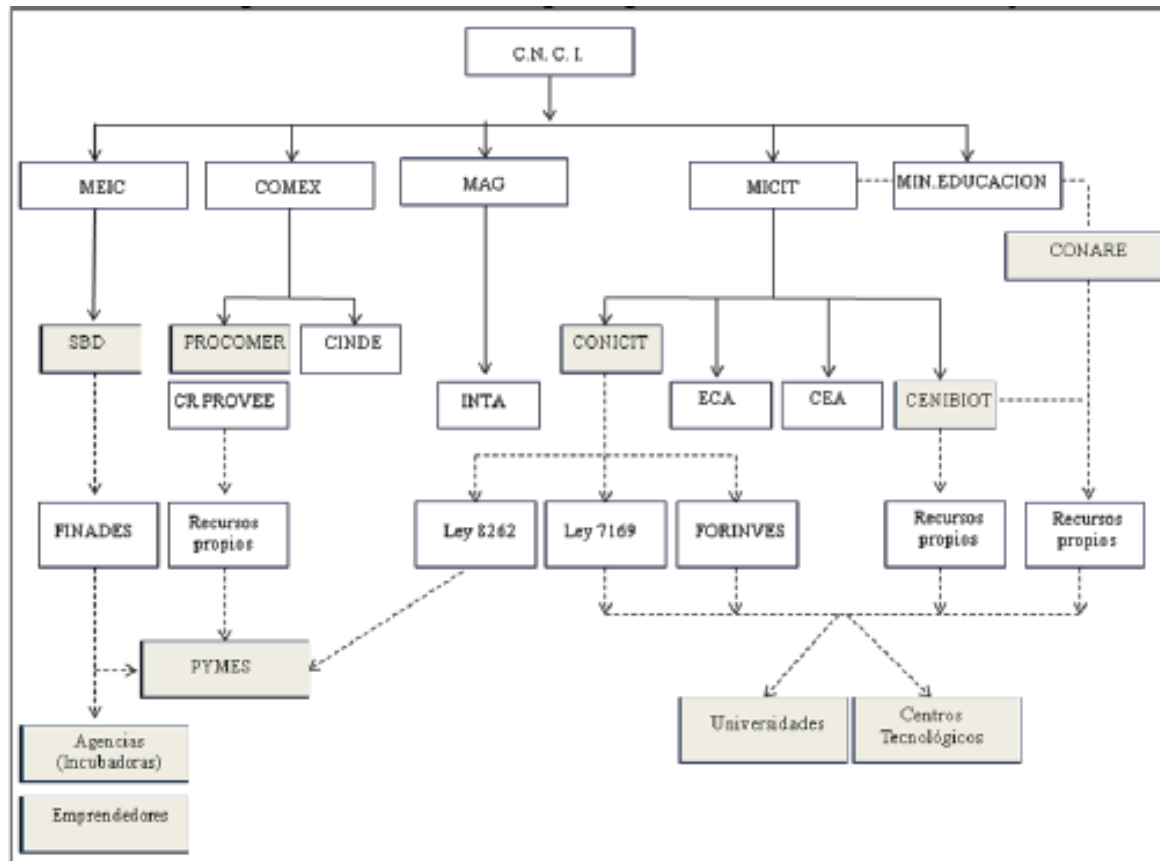
- . To be involved into worldwide networks
- .. Strong European and LATAM academia and PYMEs links
- ... Academia and Government support to PYMEs
- .... Biotechnological scalable laboratories

## Organisational pathways

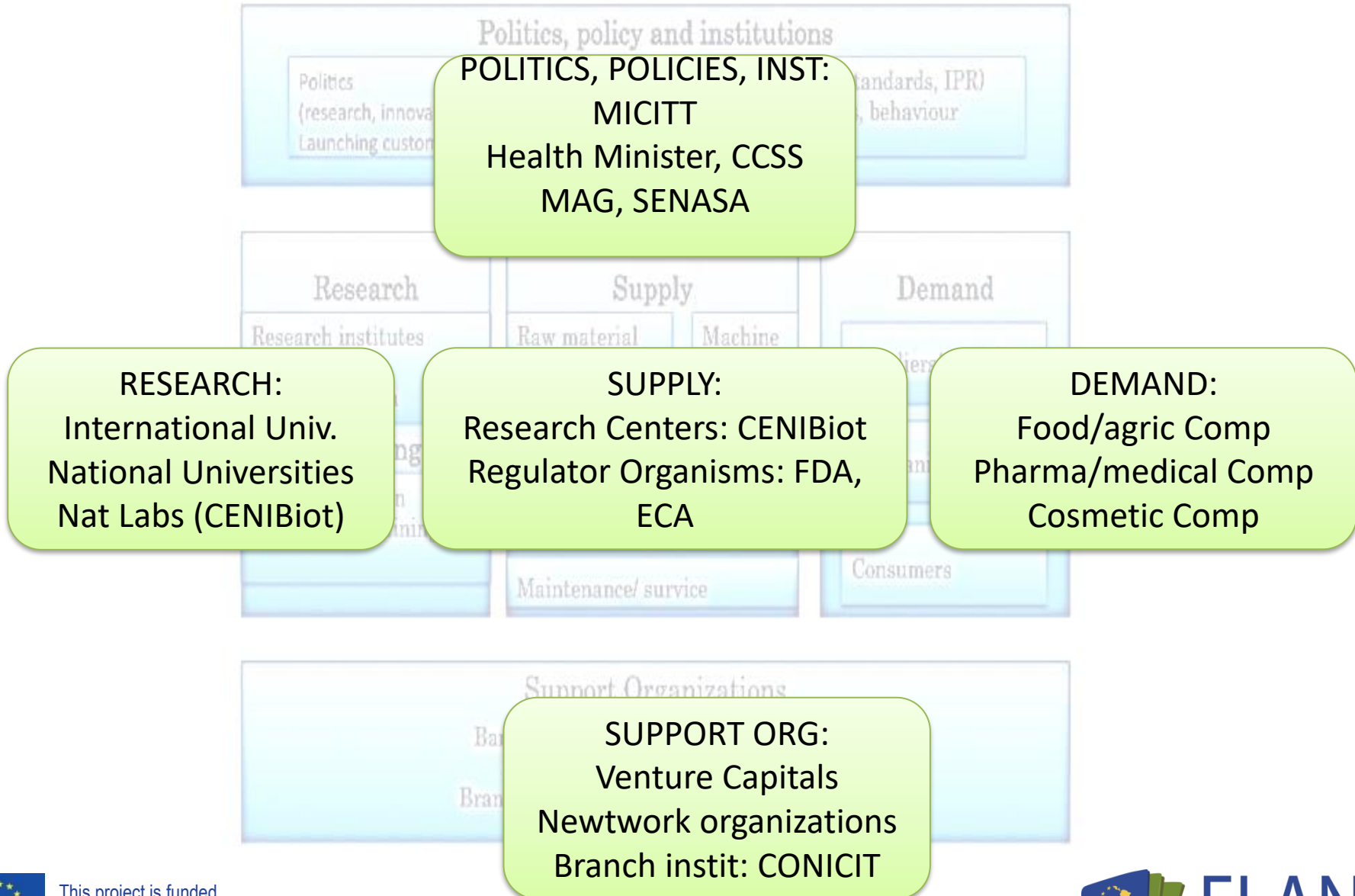
- . Government: MICITT, CONICIT, MAG, MEIC, others
- .. Academia: CENIBiot, University labs, research centres.
- ... Private sector: Companies, Industrial Chamber, others



# Actor mapping



# Template: Actor mapping



# Template: Institutional drivers & barriers

Formal rules,  
policies,  
regulations

- .National Health regulations
- .. International regulations/ norms (FDA, ISO 17025:2005)
- ... Experiment national / International regulations for biological tests

Informal  
rules,  
norms, habits,  
way of  
working

- .Protocolos
- .. Quality Control Systems



# Template: Innovation functions

## Functions

Research &  
Development



Explain to what extent these activities are sufficiently developed within the TIS. Evaluate by giving a grade: 1-10.

Name drivers and barriers underlying these activities.

|                                       | Drivers  | Barriers   |
|---------------------------------------|--|--|
| Academic research                     | <ul style="list-style-type: none"> <li>High level researchers</li> <li>.. Credibility</li> <li>... Assigned resources</li> </ul>           | <ul style="list-style-type: none"> <li>.. High tech equipments</li> <li>.. Right infrastructure</li> <li>.. Financial resources</li> </ul> |
| Industry research                     | <ul style="list-style-type: none"> <li>I+D+i initiatives</li> <li>.. Intelec property/patents</li> <li>.. Needs identified</li> </ul>      | <ul style="list-style-type: none"> <li>.. High tech equipments</li> <li>.. Right infrastructure</li> <li>.. Financial resources</li> </ul> |
| Facilities, equipment, infrastructure | <ul style="list-style-type: none"> <li>.. High tech equipments</li> <li>.. Right infrastructure</li> <li>.. Financial resources</li> </ul> | <ul style="list-style-type: none"> <li>.. High tech equipments</li> <li>.. Right infrastructure</li> <li>.. Financial resources</li> </ul> |



# Template: Innovation functions

## Functions

Knowledge diffusion



Explain to what extent these activities are sufficiently developed within the TIS. Evaluate by giving a grade: 1-10.

Name drivers and barriers underlying these activities.

|                             | Supporting  | Hampering  |
|-----------------------------|---|--|
| R&D networks                | <ul style="list-style-type: none"> <li>.. Networks</li> <li>.. Research Interconnections (HH.RR &amp; Equipments) through internet, GIANT, Internet 2.</li> </ul> | <ul style="list-style-type: none"> <li>.. Limited budget access for diffusion</li> <li>.. Networks stability.</li> </ul> |
| Cross-industry cooperation  | <ul style="list-style-type: none"> <li>.. Beer national companies</li> <li>.. Communication Media</li> </ul>  | <ul style="list-style-type: none"> <li>.. Unclear understanding of research processes and times</li> <li>..</li> </ul>   |
| Public-Private-Partnerships | <ul style="list-style-type: none"> <li>.. CR-BIOMED</li> <li>..CONICIT</li> </ul>   | <ul style="list-style-type: none"> <li>.. Limited resources</li> <li>..</li> </ul>                                       |
| International cooperation   | <ul style="list-style-type: none"> <li>.. Max Planck Institute</li> <li>.. International vinculation</li> <li>... INSERM</li> </ul>                               | <ul style="list-style-type: none"> <li>.. Worldwide economical crisis</li> <li>.. Narrow minded politics</li> </ul>      |



# Template: Innovation functions

## Functions

Entrepreneurial  
activities



Explain to what extent these activities are sufficiently developed within the TIS. Evaluate by giving a grade: 1-10.

Name drivers and barriers underlying these activities.

|                               | Supporting   | Hampering  |
|-------------------------------|--|--|
| Experiments,<br>Demonstration | <ul style="list-style-type: none"> <li>.. Effective initiatives support</li> <li>...</li> <li>..</li> </ul>  | <ul style="list-style-type: none"> <li>.. Internal regulations</li> <li>..</li> <li>..</li> </ul>  |
| New business,<br>start-ups    | <ul style="list-style-type: none"> <li>.. Activity spaces</li> <li>.. New initiatives capacitation</li> <li>..New initiatives following</li> </ul> | <ul style="list-style-type: none"> <li>.. Low topics</li> <li>.. Low new initiatives development</li> <li>... Poor venture capital access</li> </ul> |
| User involvement              | <ul style="list-style-type: none"> <li>.. Regular</li> <li>..</li> </ul>   | <ul style="list-style-type: none"> <li>..</li> </ul>   |

# Template: Innovation functions

## Functions

Resource mobilisation



Explain to what extent these activities are sufficiently developed within the TIS. Evaluate by giving a grade: 1-10.

Name drivers and barriers underlying these activities.

|   | Supporting   | Hampering   |
|---|--|---|
| Non-financial resources                             | <ul style="list-style-type: none"> <li>.. Enough HH. RR.</li> <li>.. HH. RR. Recovering after PhD studies</li> </ul> | <ul style="list-style-type: none"> <li>.. Not enough funds</li> </ul>                                 |
| Subsidies / Public funding                          | <ul style="list-style-type: none"> <li>.. CONICIT</li> <li>.. PINN-BID</li> </ul>                                    | <ul style="list-style-type: none"> <li>.. Unfriendly mechanisms for access</li> <li>..</li> </ul>     |
| Investments / Private funding                       | <ul style="list-style-type: none"> <li>.. CARAO, ICARO</li> <li>.. National beer &amp; agric companies</li> </ul>    | <ul style="list-style-type: none"> <li>.. Low financial institutions/organizat</li> <li>..</li> </ul> |
| Market creation incentives (e.g. fiscal regulation) | <ul style="list-style-type: none"> <li>.. Only for University researches</li> <li>..</li> </ul>                      | <ul style="list-style-type: none"> <li>.. Very limited</li> <li>..</li> </ul>                         |



# Template: Innovation functions

## Functions

Guidance of the search, Political support / advocacy



Explain to what extent these activities are sufficiently developed within the TIS. Evaluate by giving a grade: 1-10.

Name drivers and barriers underlying these activities.

|  | Supporting   | Hampering  |
|--|--|--|
| Expectations / Public perception                     | <ul style="list-style-type: none"> <li>.. Credibility</li> <li>.. Clear image</li> <li>.. High expectations</li> </ul>                               | <ul style="list-style-type: none"> <li>.. Spectative of great success with low cost (almost free)</li> <li>..</li> <li>..</li> </ul> |
| Lobby / interest groups                              | <ul style="list-style-type: none"> <li>.. Beneficiary sectors interest</li> <li>..Proposals availability</li> <li>.. Lobby Spaces (S.XXI)</li> </ul> | <ul style="list-style-type: none"> <li>.. Short time results spectatives</li> <li>..</li> <li>..</li> </ul>                          |
| Policy directives / incentives (e.g. policy targets) | <ul style="list-style-type: none"> <li>.. National Development Plan</li> <li>.. I+D+i Inform</li> </ul>  | <ul style="list-style-type: none"> <li>.. Implementation time</li> <li>.. Politic interests</li> </ul>                               |



# Template: SWOT analysis

## **S** TRENGTHS

- Strong academic knowledge.
- Human calified resourses
- High technology laboratories and research centers.
- -High level equipments.
- Estrategia Siglo Xxi
- Public Universities
- Government Efforts



## **W** EAKNESSES

- Poor vinculation between PYMEs, government funds and high level laboratories
- Not so much clear picture about opportunities and national resources
- Poor private sector investment.
- Poor oriented public sector investment.



**TIS Internal factors**

## **O** PPORTUNITIES

- New developments at high technology levels.
- New markets oppening
- Economic globalization
- TICs development
- Standarization/quality Systems



## **T** HREATS

- Protectionist policies
- Poor access to international vinculation funds
- Worldwide economical crisis
- Cultural differences not understoo
- New low cost productive regions.
- Different regulation Systems at different regions/countries.
- Fair competition



**TIS External factors**

Positive contribution  
to innovation pathways

Negative contribution  
to innovation pathways



This project is funded  
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