

Fieldfood

A H2020 innovation action for
demonstrating the viability of PEF in the
food industry

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16 de junio de 2020
Intercambio virtual
10h-12.30h



Unión Europea
Fondo Europeo Agrícola
de Desarrollo Rural
Europe investing in your future



RRN RED
RURAL
NACIONAL

Definition of PEF

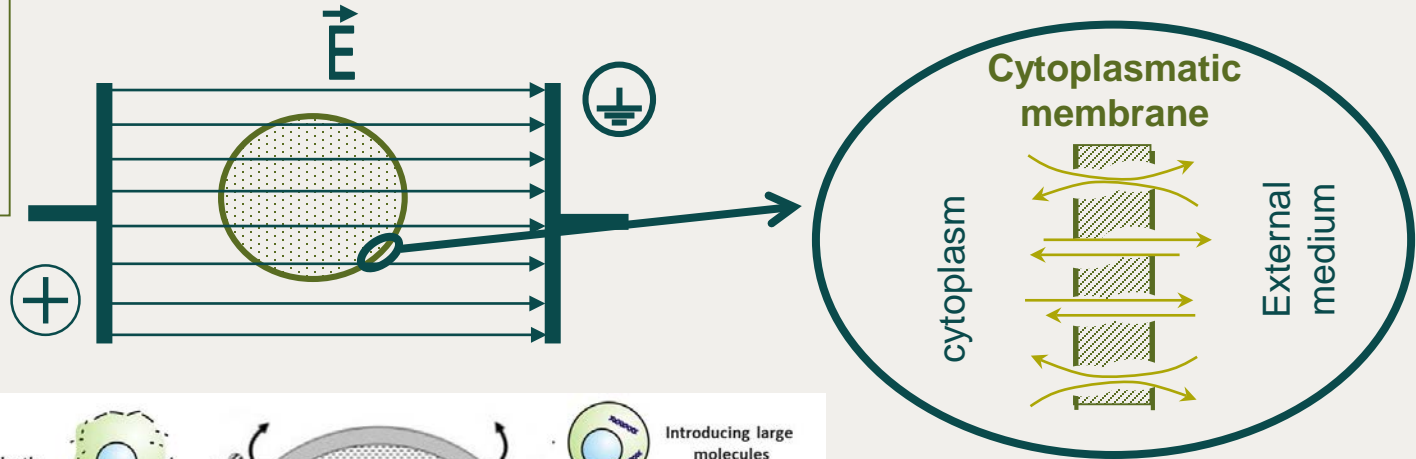
•Application of pulses of high voltage (kV) and short duration (ms- μ s) to a biological material placed between two electrodes

•Electrical Field Strength:

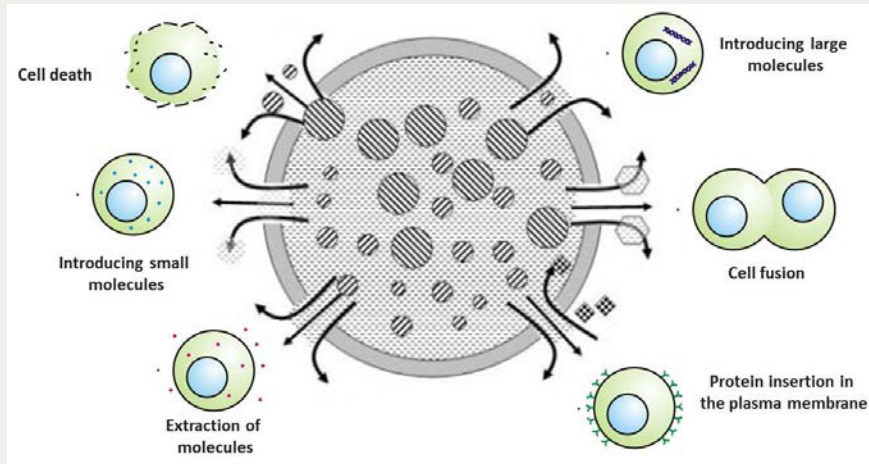
$$E = V/d$$

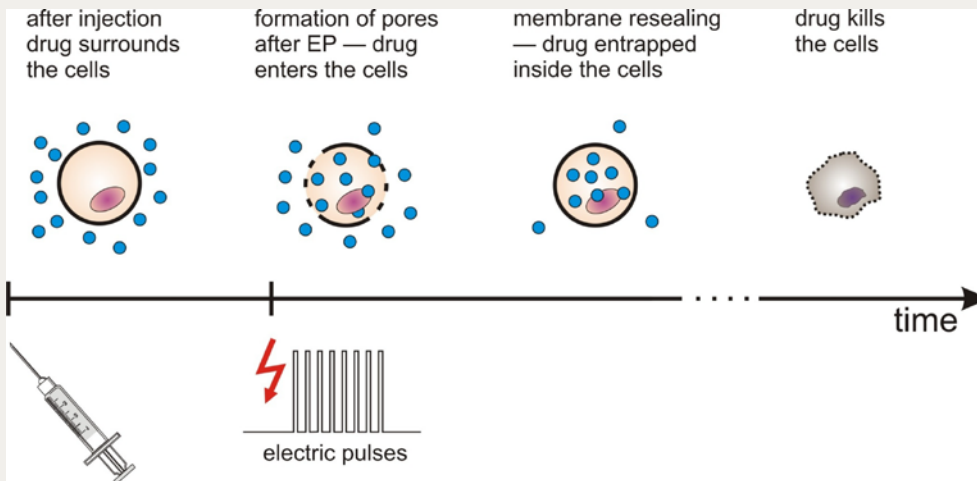
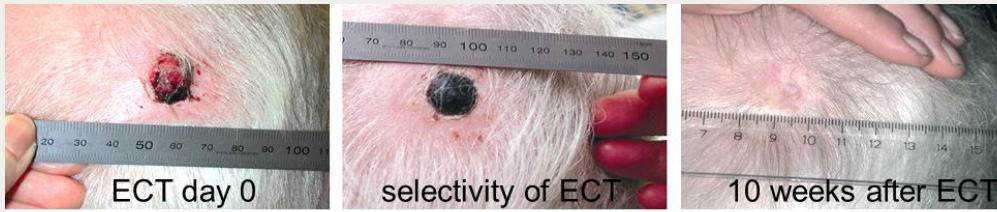
V= voltage (kV)

d= distance between electrodes (cm)

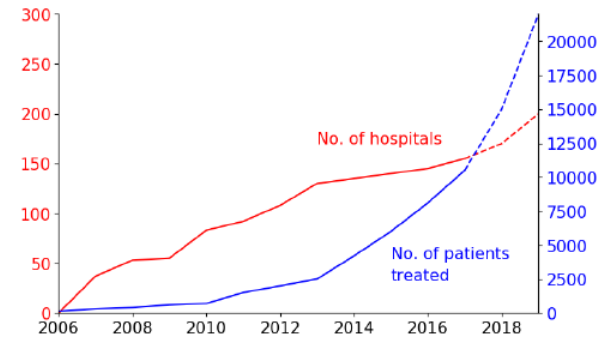


Electroporation





Clinical use of electrochemotherapy in EU



Reimbursed in:
 Switzerland, Austria, Germany, Denmark, Spain, UK, Italy, Portugal, Slovenia.
 France, Poland – in progress for reimbursement.

Source: IGEA S.p.A., Italy

Julie Gehl.

Ugeskrift for Laeger 167(34): 3156-9. 2005.

Jarm. Cemazar. Miklavcic. Sersa.
Expert Rev. Anticancer Ther. 10: 729–746. 2010

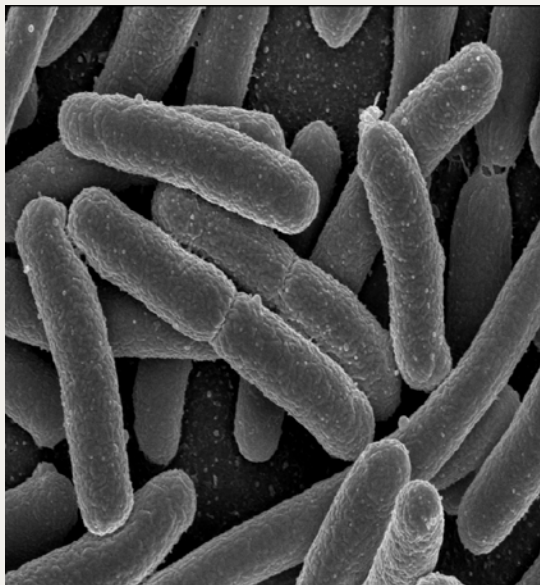


MINISTERIO
 DE AGRICULTURA Y PESCA,
 ALIMENTACIÓN Y MEDIO AMBIENTE



Applications of PEF

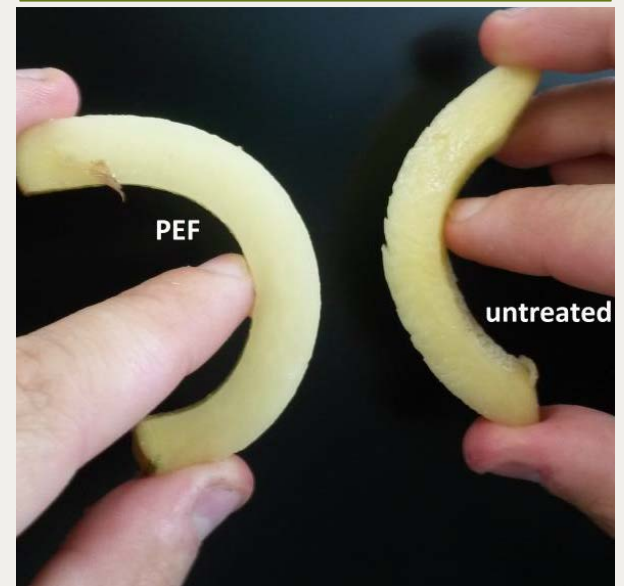
Microbial inactivation
Food pasteurization



Electroporation of eukaryote cells
Mass transfer



Electroporation of eukaryote cells
Structure modification



Garnacha

1 hora de maceración



Control



1 kV/cm



3 kV/cm



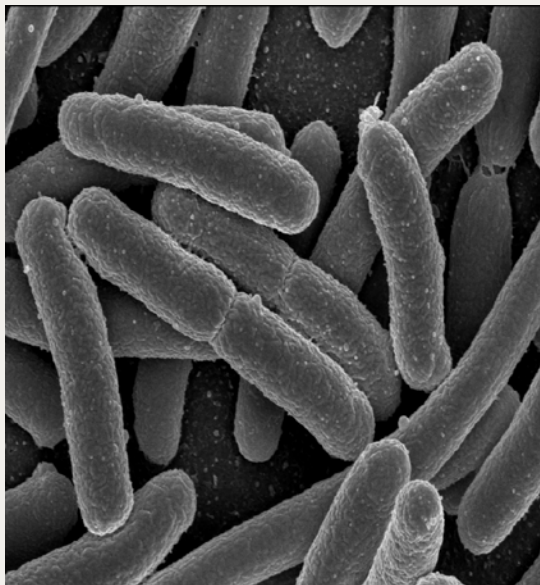
5 kV/cm



8 kV/cm

Applications of PEF

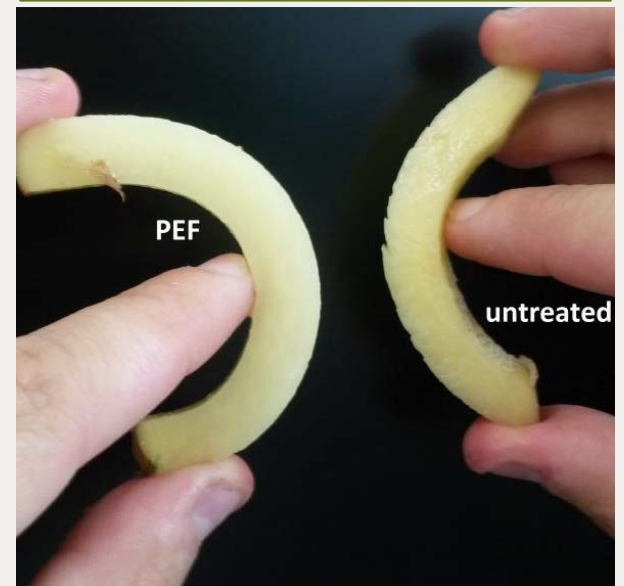
Microbial inactivation
Food pasteurization



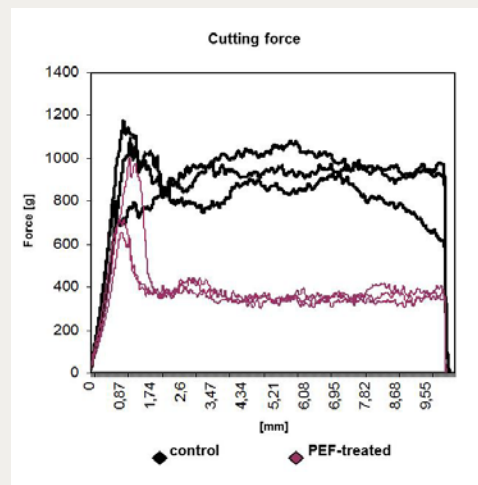
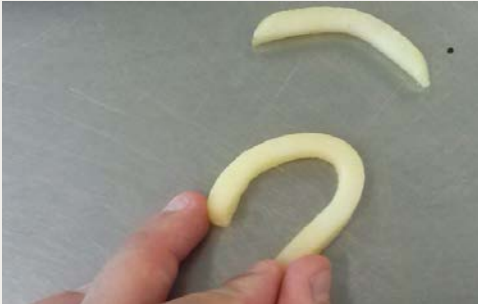
Electroporation of eukaryote cells
Mass transfer



Electroporation of eukaryote cells
Structure modification



Structure modification by PEF

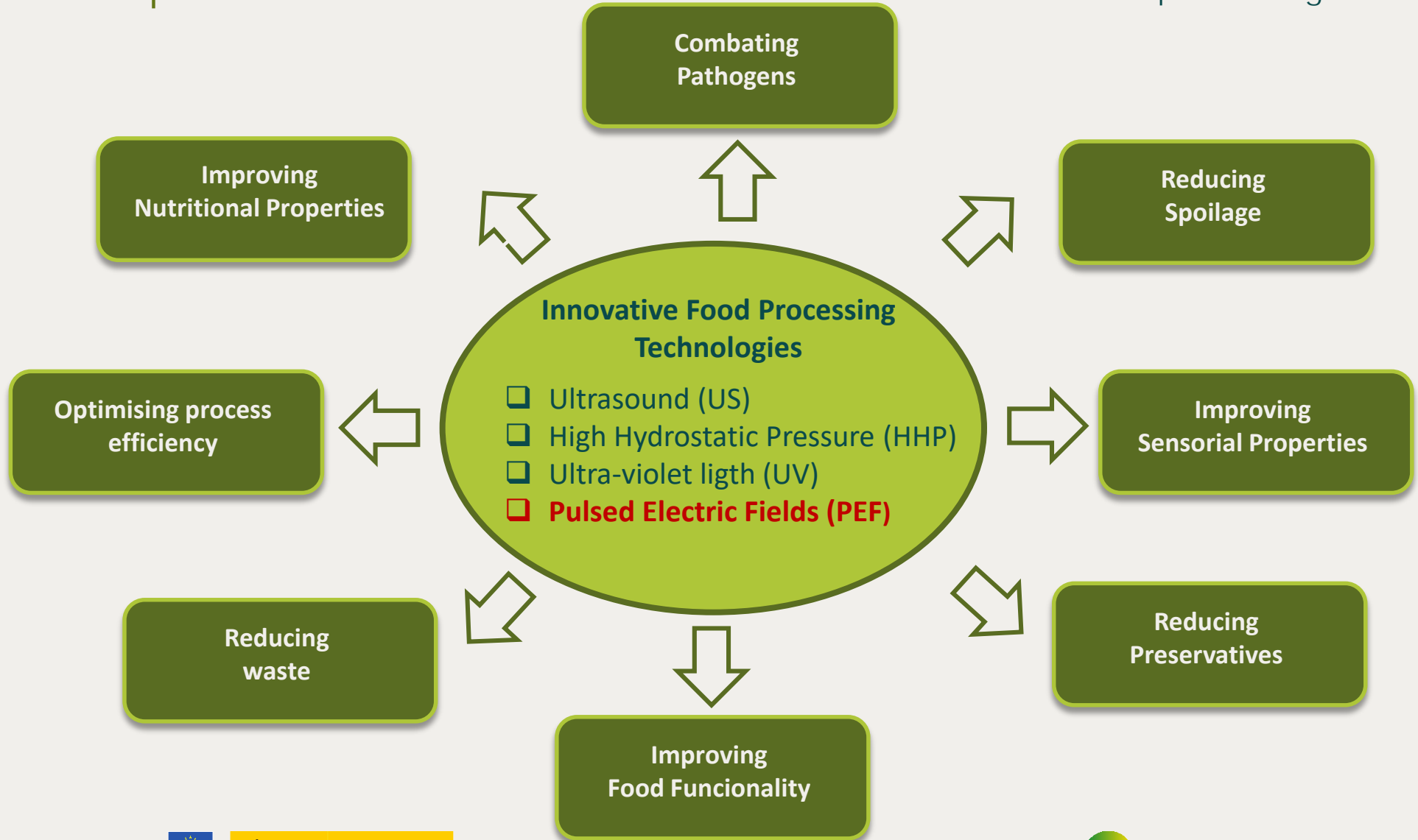


Motivación

- Experiencia previa en relación a la temática de la convocatoria
- Contactos para organizar el consorcio
- La propuesta se presentaba en dos fases
- Disponibilidad de tiempo

Specific challenge

Topic: SFS-17-2014- Innovative solutions for sustainable novel food processing

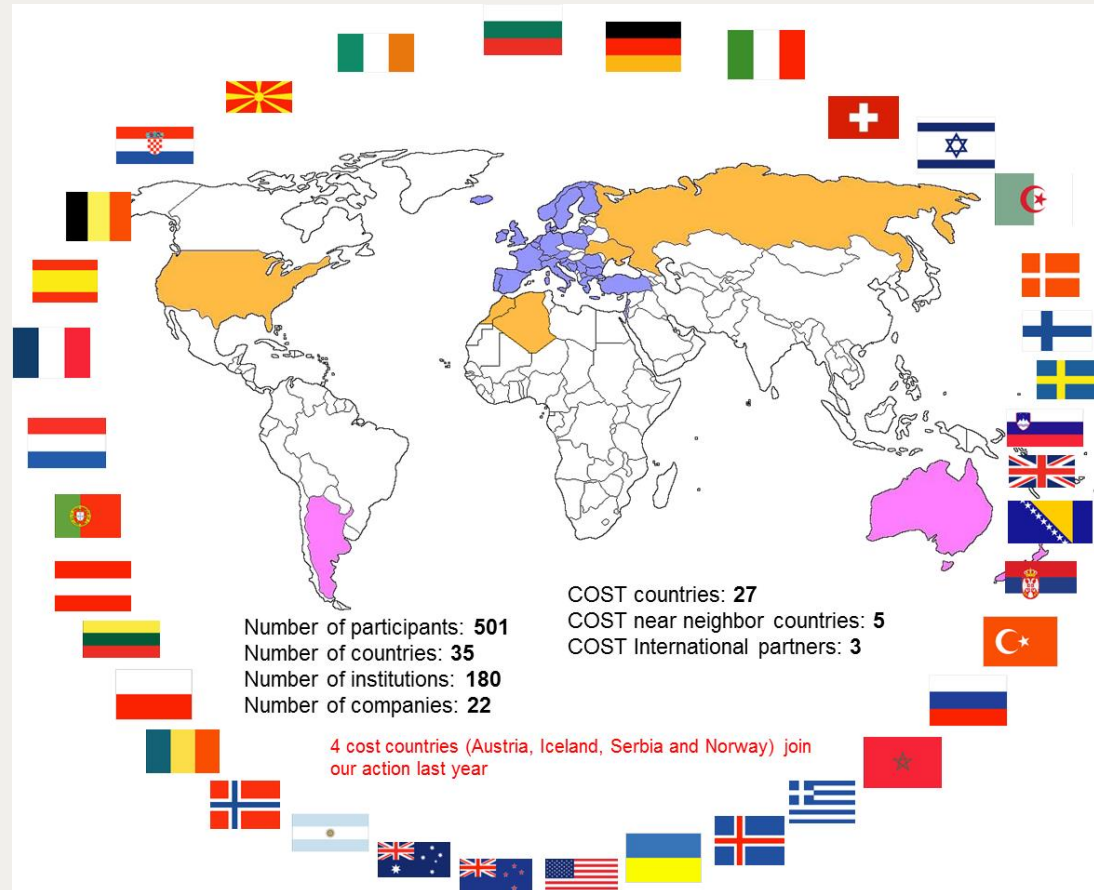


Motivación

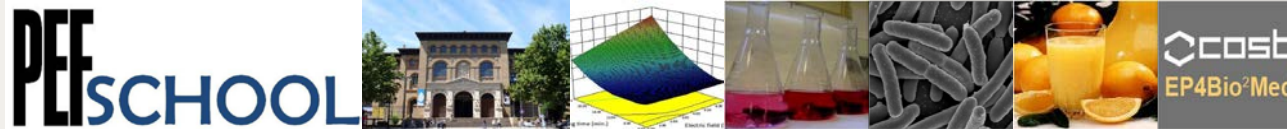
- ❑ **Experiencia previa en relación a la temática de la convocatoria**
- ❑ **Contactos para organizar el consorcio**
- ❑ **La propuesta se presentaba en dos fases**
- ❑ **Disponibilidad de tiempo**



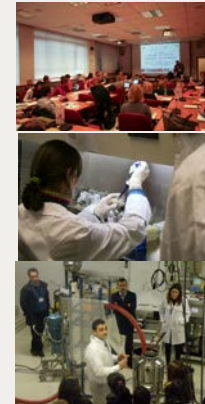
EP4Bio²Med



European network for development of electroporation-based technologies and treatments



School on applications of PEF for food processing



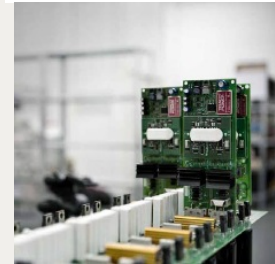
1st World Congress on Electroporation and Pulsed Electric Fields
in Biology, Medicine and Food and Environmental Technologies
September 6-10, 2015
Portorož, Slovenia

WC2015.ELECTROPORATION.NET

... we will all be there

ISEBTT International Society
for Electroporation-Based
Technologies and Treatments

The consortium



Motivación

- ❑ **Experiencia previa**
- ❑ **Contactos para organizar el consorcio**
- ❑ **La propuesta se presentaba en dos fases**
- ❑ **Disponibilidad de tiempo**

RESEARCH & INNOVATION

Participant Portal

Research & Innovation > Participant Portal > Opportunities

- CALLING OPPORTUNITIES
- HOW TO PARTICIPATE
- PROJECTS & RESULTS
- EXPERTS
- SUPPORT ▾
- LOGIN
- REGISTER

2020

TOPIC : Innovative solutions for sustainable novel food processing

Topic identifier: SFS-17-2014

Publication date: 11 December 2013

Types of action: IA Innovation action

DeadlineModel: two-stage

Opening date: 11 December 2013

Deadline: 12 March 2014 17:00:00

2nd stage Deadline: 26 June 2014 17:00:00

Time Zone : (Brussels time)

Horizon 2020

[Call budget overview](#)

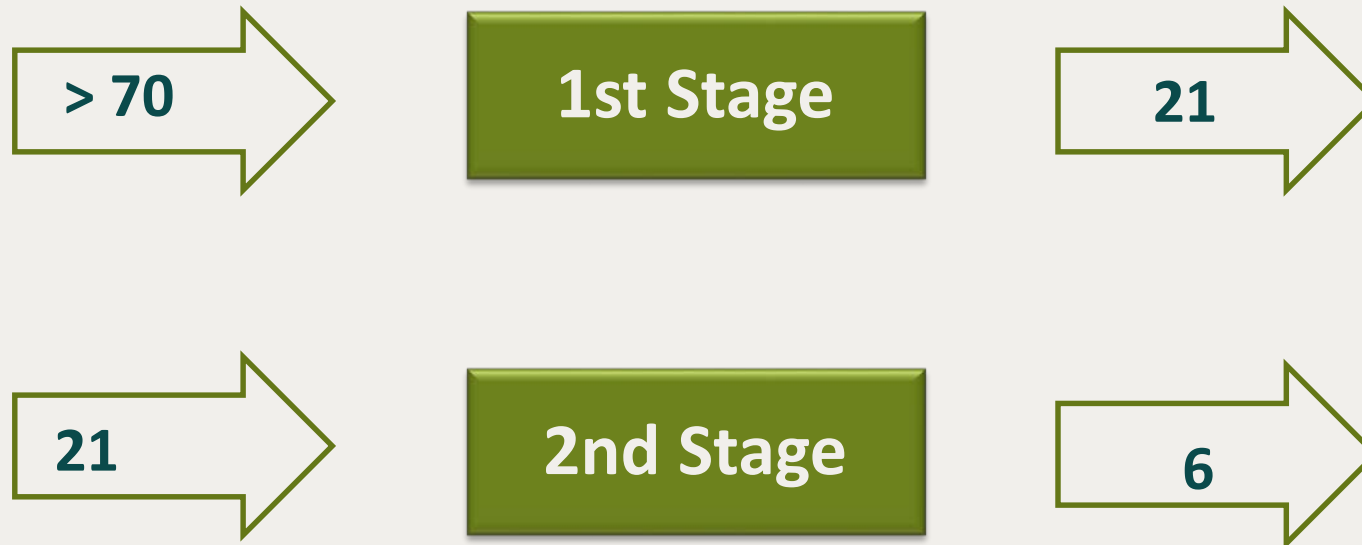
Primera fase: 1/12/2013 deadline: 12/03/2013

Segunda fase: 3/05/2014 deadline: 26/06/2014 at 17:00 (Brussels time).

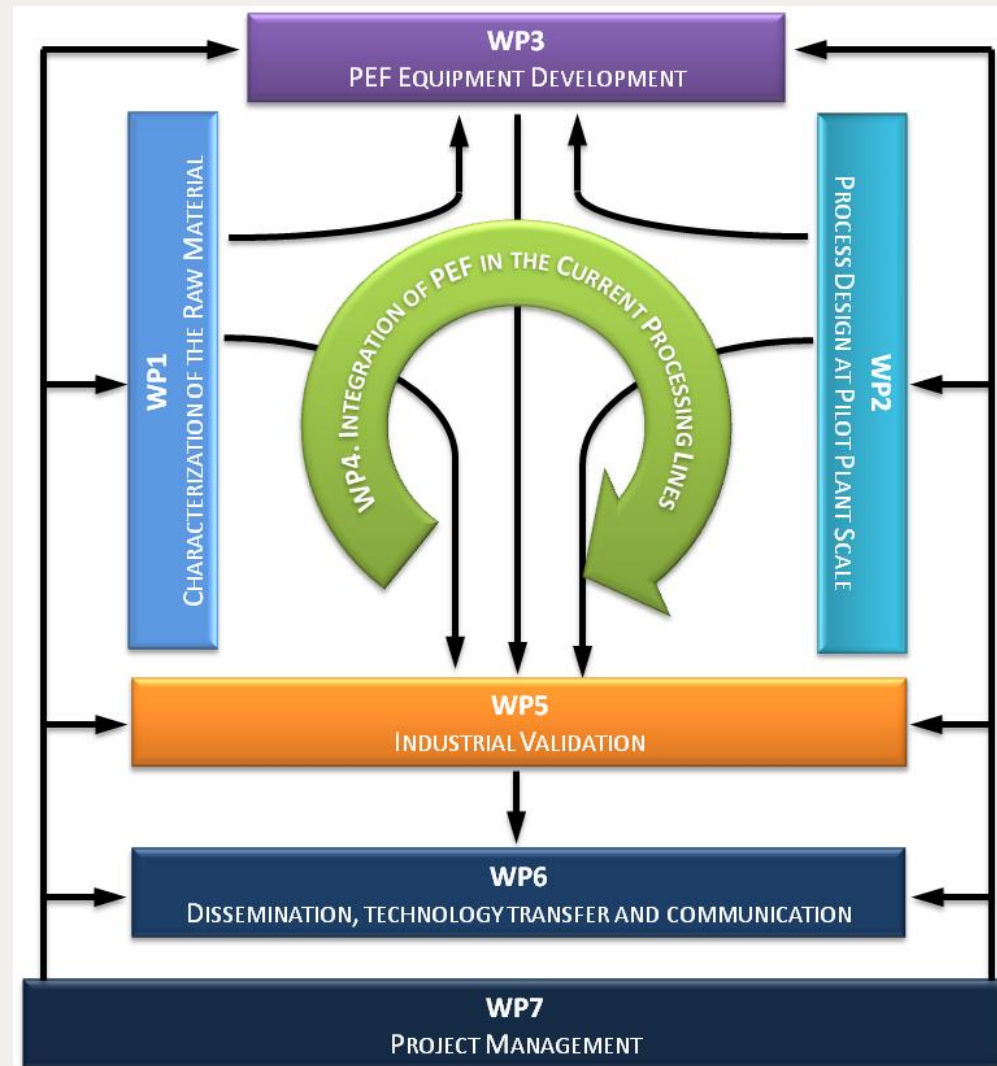
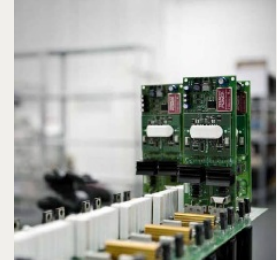
Resolución

Topic: SFS-17-2014- Innovative solutions for sustainable novel food processing

Competitive call: <10%



Ejecución



Desarrollo del proyecto



GOBIERNO DE ESPAÑA
MINISTERIO DE AGRICULTURA, PESCA, ALIMENTACIÓN Y MEDIO AMBIENTE



Más información

<https://fieldfood.eu/default.aspx>



FieldFOOD juicing it up on Euronews

<https://www.youtube.com/watch?v=c32GbLVM1zM&t=64s>

Equipos PEF

PEF generators



ScandiNova Modulator PG

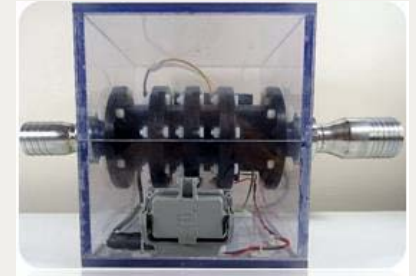


EPULSUS® PM1-10

PEF treatment chambers



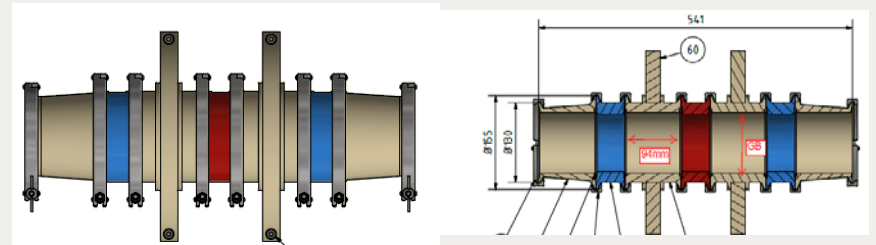
2,0 cm Ø 2,0 cm GAP



2,5 cm Ø 4,0 cm GAP



10 cm Ø 10 cm GAP



Conclusiones

- Conocer en profundidad el tema sobre el que se va a solicitar el proyecto
- Estar convencido de que se quiere solicitar el proyecto y disponer de tiempo para prepararlo
- La preparación de la memoria y la posterior gestión del proyecto requiere un equipo de trabajo multidisciplinar
- Mucha animo y paciencia