



SmartPilots

Interreg Europe



European Union
European Regional
Development Fund

Smartpilots:

Improving policies in support of shared pilot facilities to increase their impact on the Key Enabling Technology Industrial Biotech and the European Bio-economy

What is INTERREG EU?

Interreg Europe helps regional and local governments across Europe to develop and deliver **better policy**. By creating an environment and opportunities for sharing solutions, it's aim is that to ensure that government investment, innovation and implementation efforts all lead to integrated and sustainable impact for people and place.

Interreg Europe aims to get maximum return from the **EUR 359 million** financed by the European Regional Development Fund (ERDF) for 2014-2020.

Interreg Europe offers opportunities for regional and local public authorities across Europe to **share ideas** and **experience on public policy in practice**, therefore **improving strategies** for their citizens and communities.

PGI 00060 SMARTPILOTS project

Improve regional policies in support of Shared Pilot Facilities to increase their impact on the Key Enabling technology (KET) Industrial Biotech and the bio-economy.

Fit with categories?

- ✓ Research and innovation
- ✓ SME competitiveness
- ✓ Low-carbon economy
- ✓ Environment and resource efficiency



Improve regional policies in support of Shared Pilot Facilities to increase their impact on the Key Enabling technology (KET) Industrial Biotech and the bio-economy.

The background

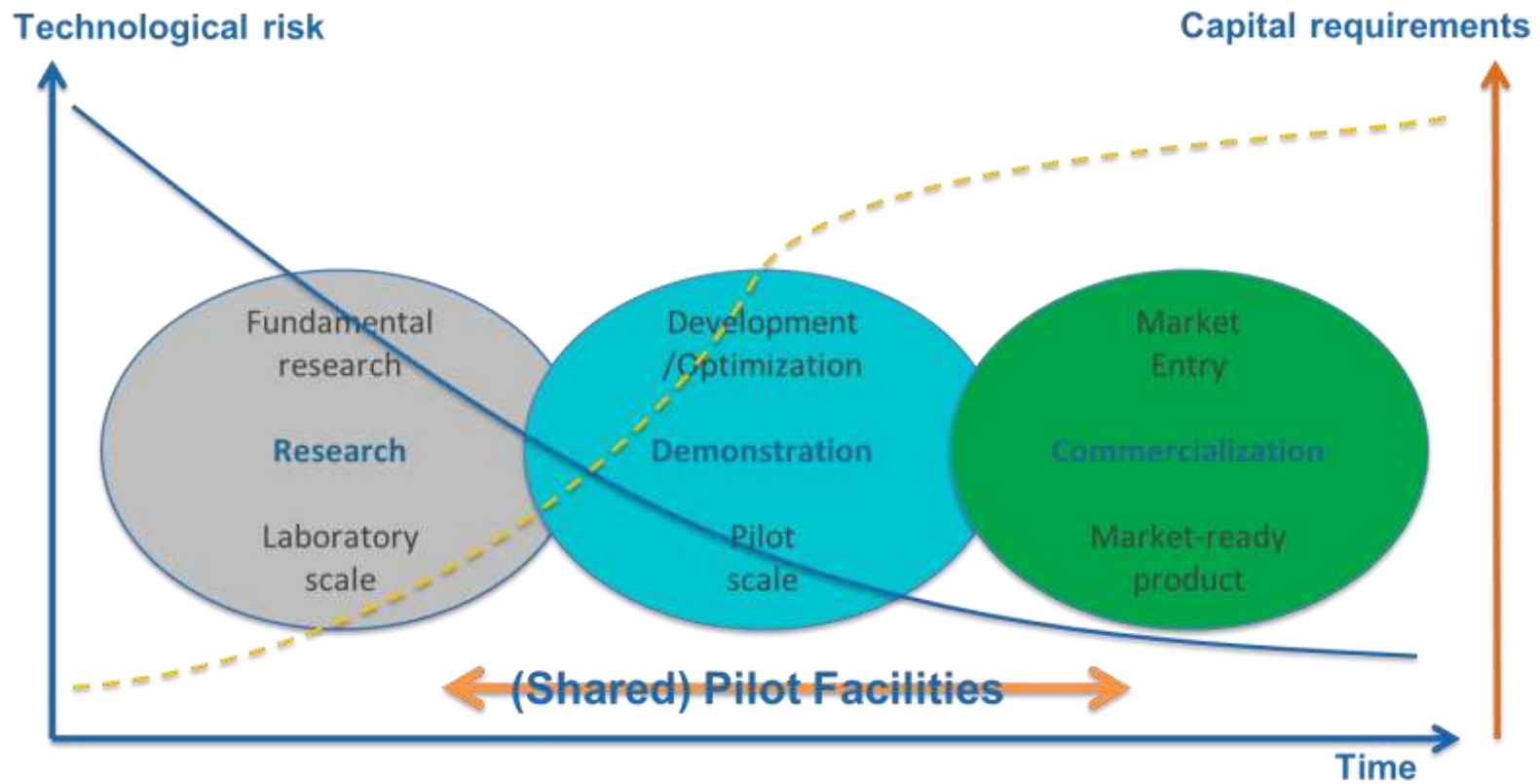
Bioeconomy allows the sustainable production of chemicals, pharmaceuticals, materials, food, feed and energy from renewable feedstocks.

Shared Pilots Plants are test sites open to public (i.e. companies) that accelerate innovation transfer from lab to industrial dimension.

They are open to companies and research organisations and can be considered as shared investments for innovation, showing their efficacy in helping innovators (mainly SMEs) to «survive» the so called «Valley of Death», i.e. the innovation phase between lab and market, with high technological and financial risk.

SMARTPILOTS

Improve regional policies in support of Shared Pilot Facilities to increase their impact on the Key Enabling technology (KET) Industrial Biotech and the bio-economy.



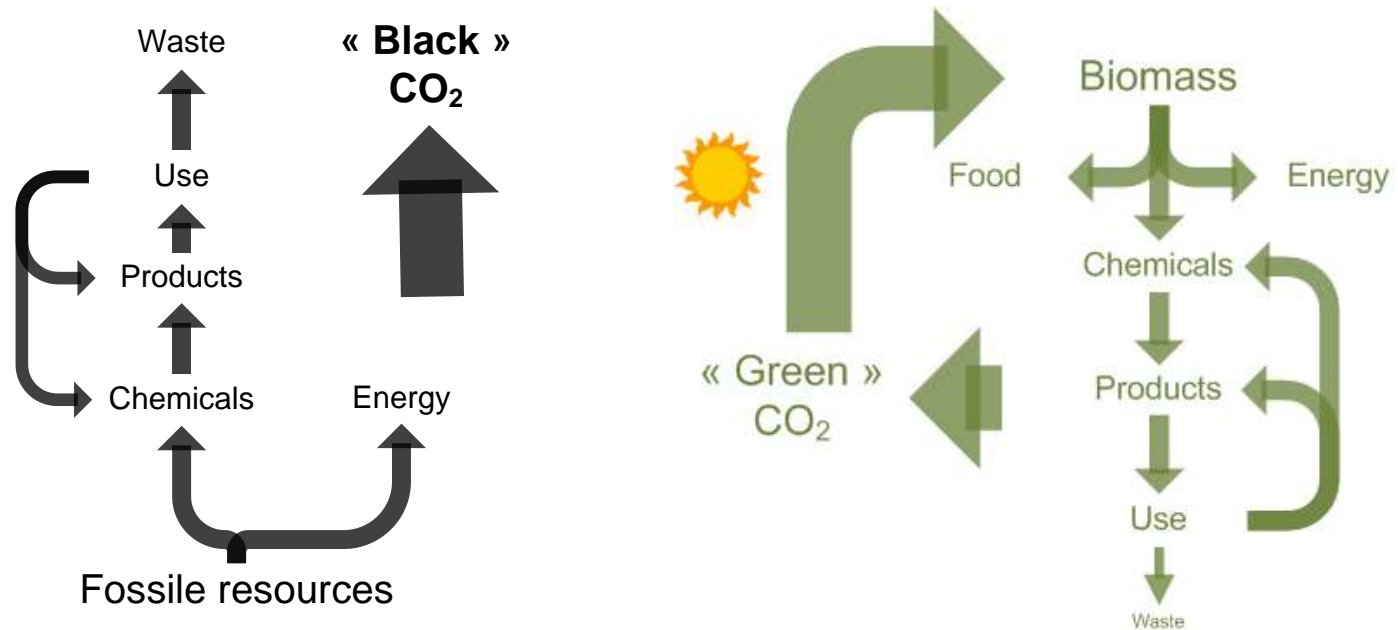
SMARTPILOTS PROJECT

These facilities are mainly developed through an initial public funding; however maintaining these structures on a long term basis, is a challenge that is often under estimated, mainly because bioeconomy is a quite recent field and not all European Regions have dedicated policies in place..

In SmartPilots project, regional policies will be improved so as to support in an economic and impact oriented way, these infrastructures, through both direct support to facilities and indirect support to users.

SMARTPILOTS

Improve regional policies in support of Shared Pilot Facilities to increase their impact on the Key Enabling technology (KET) Industrial Biotech and the **bio-economy**.



Bioeconomy: from fossil to bio-based feedstock

SMARTPILOTS

Improve regional policies in support of Shared Pilot Facilities to increase their impact on the Key Enabling technology (KET) **Industrial Biotech** and the **bio-economy**.

Biotechnology is the use of biological processes, organisms, or systems to manufacture products



Red Biotechnology

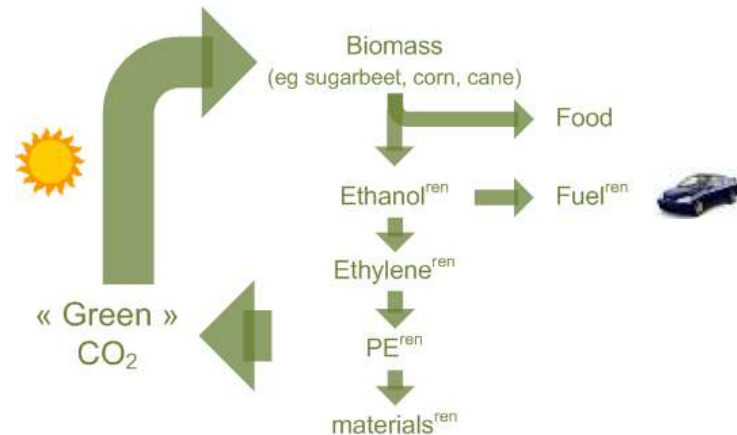
Medical biotechnology: e.g. vaccines, insuline

Green Biotechnology

Plant biotechnology, e.g. plant resistant to insects, diseases

White Biotechnology

Industrial biotechnology, e.g. enzyme washing powder



White Biotechnology:

The use of microorganisms and their enzymes to produce chemicals, materials and bio-energy from renewable resources



SMARTPILOTS

Improve regional policies in support of **Shared Pilot Facilities** to increase their impact on the Key Enabling technology (KET) **Industrial Biotech** and the **bio-economy**.

Innovation and deployment in IB & BIO economy:

- **Requires upscaling:** expertise & equipment/ money & time
 - **Risky:** uncertain political climate (CO₂ taxes, incentives, penalties) see e.g. biofuels
 - **Low risk premium & longer payback time:** profit margins lower than in e.g. pharma or red biotech
- >> difficult to convince management and/or private investors

Shared Pilot Facilities = risk sharing reduction

SMARTPILOTS

Improve regional policies in support of **Shared Pilot Facilities** to increase their impact on the Key Enabling technology (KET) **Industrial Biotech** and the **bio-economy**.

Shared Pilot Facilities

- Shared investments in innovation infrastructure, equipment, capabilities & expertise
- Open access test sites that bring bio-economy innovations from the laboratory into industrial practice
- Open to (all) companies and research institutes
- Proven to be key & successful in helping innovators, especially SMEs, to bridge the Valley of Death, increased change of deployment, reduced time to market

But.... Long term viability difficult without governmental support

>> Create political awareness about impact and requirements of Shared Pilot Facilities (SPF) for the bio-economy

SMARTPILOTS

Improve regional policies in support of **Shared Pilot Facilities** to increase their impact on the Key Enabling technology (KET) **Industrial Biotech** and the **bio-economy**.

Shared Pilot Facilities

Require:

- IB and bioeconomy is a 24/7 activity running on expensive equipment
- Awareness, matchmaking and building value chains >> **critical mass: people & infrastructures**
- State of the art changes & wear
>> **Recurring investment in new & replacement infrastructure & equipment**
>> fragmentation to be avoided for capital and service-efficiency >> centers of excellence

Impact:

- >> Wide innovation (mainly for SMEs) and reduction of time to market
- >> “new” economic activity, re-industrialisation, local resources, waste valorisation, creation of new employment **and** sustainable activity

SMARTPILOTS

Improve regional policies in support of **Shared Pilot Facilities** to increase their impact on the Key Enabling technology (KET) **Industrial Biotech** and the **bio-economy**.

Purposes & goals

- **Improve the implementation of regional development policies and programs**, in particular programs for Investment for Growth and Jobs in the field of **RDI infrastructures and capacities**.
- Improving policies in support of SPF to increase their impact on the European Bio economy and the KET IB.

Networking networks of open access research & pilot infrastructures covering full bio economy

	Biomass supply	Primary conversion	2ndary conversion	Products and markets
VC1: Lignocellulosic		SmartPilots BRISK Biorefine cluster EU BioPilotsUK	SmartPilots BioPilotsUK	
VC2: Forest based	Erifore	Erifore SmartPilots BRISK BioPilotsUK	Erifore SmartPilots BioPilotsUK	Erifore
VC3: Agro-based		SmartPilots BRISK Biorefine cluster EU BioPilotsUK	SmartPilots BioPilotsUK	
VC4: New e.g. Algae, waste	Enalgae Biorefine cluster EU BioPilotsUK	SmartPilots BRISK BioPilotsUK	SmartPilots BioPilotsUK	
VC5: Integrated E, pulp, chemicals	Erifore	Erifore SmartPilots Biorefine cluster EU BioPilotsUK	Erifore SmartPilots BioPilotsUK	Erifore



Partnership

Shared Pilot Facilities & their respective Regions:

- Bio Base Europe Pilot Plant (Flanders, Belgium) with EWI department (Science, Technology and Innovation)
- Centre for Process Innovation (Tees Valley, United Kingdom)
- VTT (Helsinki Uusimaa, Finland),
- Bioprocess Pilot Facility (Zuid-Holland, The Netherlands) with the Province of Zuid-Holland

Regions without SPF:

Innovhub SSI - Lombardy (Italy).

Case studies :

- ARD (France)
- Fraunhofer CBP (Germany)

SMARTPILOTS

Sub objectives

1. Optimizing direct support mechanisms for SPF:

- Investments in hardware/infrastructure, maintenance and replacement of equipment needs
- Regions will exchange direct support practices – best value for money for each region

2. Optimising indirect supporto for SPF:

By promoting innovators to use of SPF

- Innovations have an increased chance to make it to the market
- The long term viability of the SPF are supported

Best practices including impact analysis will be exchanged between the regions

3. Facilitate interregional cooperation for pilot activities:

- By promoting regional innovators to use an SPF from outside the region
- By co-investment of different regions in the same SPF

SMARTPILOTS

Expected results

- Exchange & Learning
- Improved support projects embedded in the OP of the participating regions
- Identified good practices serve as an example for other regions that reconsider their OP accordingly
- The supported projects result in increased
 - Products that make it to the market
 - R&I intensity in the companies of the participating regions
- Improved monitoring systems to measure impact of support projects on the region

Direct support mechanisms for SPF

preliminary findings

infra & equipment financed by mix of (ratio varying):

- ERDF (European funds for Regional development) based on regional priorities written down in Operational Programs
 - no European alignment with e.g. H2020 program
- Regional & national funding
- Private investments:
 - Recurring national/regional ground funding or grant support
 - Third party private investments
 - Net revenues

Organisational & operational costs covered by mix of (ratio varying):

- National & regional ground financing
- Grant support projects (earmarked budgets & competitive calls)
- Private projects
- Revenue from IP licensing or spin out companies
- Tax credits on research activities

Support mechanisms for SPF-users

preliminary findings

- H2020:
 - H2020 higher funding rates to demo compared to FP7
 - SME-instrument: innovation support for SME's but high subcontracting to existing SPF negative impact on evaluation
 - BBI-JTI: industry driven
 - Low success rate, administrative hurdle “newcomers”
 - Funding rate for SPF service providers not always OK (large industry)
 - Flat rate overhead insufficient for certain SPFs
 - IPR
 - Interregional/ transnational collaboration encouraged/ required

- ERDF & national/ regional sources:
 - Focus on low TRL projects
 - Access to “foreign” SPFs not encouraged
 - Some regions little budget
 - State aid issues
 - IPR open access

Interregional Cooperation

preliminary findings

- H2020:
 - No infra: only operational costs
- ESIF (European structural investment funds)
 - Interreg programs adjacent regions budget for collaboration/ infra investments
 - Interreg EU: non adjacent regions but no budget for infra
- Joint programming initiatives between regions
 - projects/ not infra
 - Regional budget
- ESFRI: European Strategic forum for research infrastructures
 - Pan European concertation, regional/national budget, low TRL

Some figures:

Budget	1.433.819 €	
ERDF	1.176.526,15€	82,06%
Public contribution	203.567,60€	
Private contribution	53.725,25€	

2 Phases	Start	End
Phase 1: inventory, exchange, learning, action plan	01/04/2016	31/03/2018
Phase 2: Monitoring Action Plan	01/04/2018	31/03/2020

More Info?

Ilaria Bonetti

ilaria.bonetti@mi.camcom.it

SmartPilots
Interreg Europe



European Union
European Regional
Development Fund

VIDEO

<https://www.youtube.com/watch?v=VKgZM2nlofY>

<http://www.interregeurope.eu/smartpilots/>