



# STUDENT CONTEST about Active and Intelligent Packaging

COST FP1405

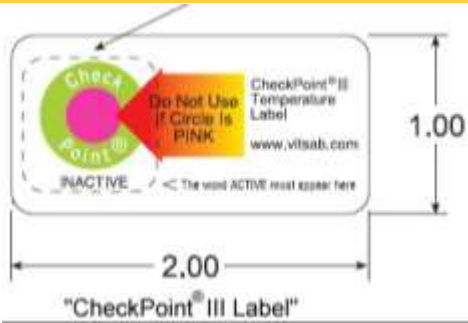
ACTIVE AND INTELLIGENT FIBRE-BASED PACKAGING – INNOVATION AND MARKET INTRODUCTION

22th November 2016, Slovenia



COST is supported by  
the EU Framework Programme  
Horizon 2020

# A&I Packaging



UNBROKEN COLD CHAIN



BROKEN COLD CHAIN



TRACEO®  
freshness reloaded



If the product is properly stored, TRACEO® is transparent, the product is fresh, the barcode can be read at the checkout.



If the product is badly stored, TRACEO® is pink, the product is no longer edible, the barcode is concealed and can't be read at the checkout.



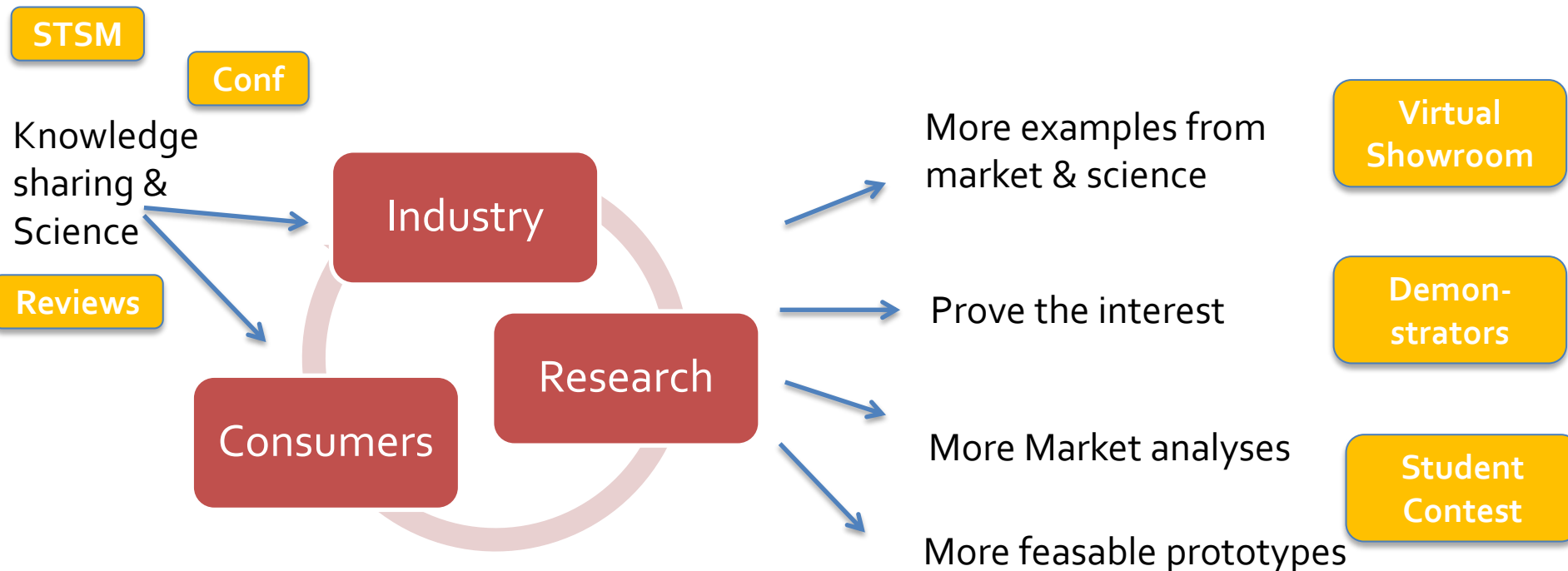
read the sensor **crisp** **firm** **juicy**



**COST FP1405**

**ACTIVE AND INTELLIGENT FIBRE-BASED PACKAGING – INNOVATION & MARKET INTRODUCTION**

The main objective of the Action is to develop a knowledge-based network on sustainable, active and intelligent fibre-based packaging in order to overcome current technological, industrial, and social limitations



# Student CONTEST



COST Action FP1405  
Active and intelligent (fiber-based) packaging –  
innovation and market introduction



## ACTINPACK STUDENT CONTESTS

“Demonstrators” or “Technological & economical analyses”

*General information and application rules.*

### What is **ACTINPACK**?

ActinPak is a COST Action focused on active, smart and intelligent fiber-based packaging solutions; despite the huge potential showed by such products in the optimization of supply chain, improvement of the shelf-life and development of consumer consciousness in food utilization; very few of the potential solutions have been able to reach the market.

The main objective of the Action is thus to fill the gap among the research innovation, industrial production and commercial exploitation of new products by conducting research actions which encompasses not only the development of scientific and technical solutions, but also the analysis of opportunities for and obstacles to market introduction. The key technical, social, economic and legislative factors to focus on, and possibilities/limitations for successful market introduction will be identify by providing an open, multidisciplinary platform for the complete paper and board packaging value chain to share knowledge and solutions among partners.

### What is the Student contest (SC)

The two student contests (SC), are networking tools aimed at increasing collaborations between European students, researchers and companies in the field of active & intelligent packaging.

SCs are student activities fostering collaboration between student and partners, contributing to the scientific objectives of the Actions, allowing participant to learn new techniques, communicating on the field.

They are particularly intended for young students in Bachelor or master degree.

Student groups should be:

- ✓ from a Participating COST country
- ✓ available to present their results in an ActinPak conference

Each SC “winner” will be invited in the next ActinPak meeting to present their work.

They could have networking actions. Their CV will be distribute to all partners (more than 100 contacts in industry and university)

Participants	
Country	Application Date
<a href="#">Austria</a>	17/12/2014
<a href="#">Belgium</a>	10/02/2015
<a href="#">Bulgaria</a>	10/12/2014
<a href="#">Croatia</a>	12/01/2015
<a href="#">Czech Republic</a>	16/02/2015
<a href="#">Denmark</a>	05/12/2014
<a href="#">Finland</a>	09/12/2014
<a href="#">France</a>	09/12/2014
<a href="#">Germany</a>	05/12/2014
<a href="#">Greece</a>	16/02/2015
<a href="#">Hungary</a>	28/11/2014
<a href="#">Ireland</a>	07/04/2015
<a href="#">Italy</a>	30/01/2015
<a href="#">Lithuania</a>	13/04/2015
<a href="#">Luxembourg</a>	08/12/2014
<a href="#">Netherlands</a>	24/11/2014
<a href="#">Norway</a>	23/03/2015
<a href="#">Poland</a>	05/12/2014
<a href="#">Portugal</a>	04/02/2015
<a href="#">Romania</a>	30/01/2015
<a href="#">Serbia</a>	20/02/2015
<a href="#">Slovakia</a>	15/03/2015
<a href="#">Slovenia</a>	24/11/2014
<a href="#">Spain</a>	10/12/2014
<a href="#">Sweden</a>	26/01/2015
<a href="#">Switzerland</a>	16/03/2015
<a href="#">Turkey</a>	16/03/2015
<a href="#">United Kingdom</a>	18/11/2014
<b>Total</b>	<b>28</b>
COST International Partner Countries	
Institution Name	Country
SCION	New Zealand
University of Tokyo	Japan



COST Action FP1405  
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innovation and market introduction



The deadline and allowed funding for the different SC are reported below:

	Deadline	Group of student	Deliverable
SC1 – “Demonstrator”	1 <sup>st</sup> of June 2017	Maximum 8 students	1 report 1 ppt presentation-1 video 1 demonstrator
SC2- “Tech & eco”	1 <sup>st</sup> of June 2017	Maximum 2 students	1 report 1 ppt presentation

### Application and evaluation procedures.

Applicants should register by sending an e-mail to [Julien.Bras@grenoble-inp.fr](mailto:Julien.Bras@grenoble-inp.fr) before the 1<sup>st</sup> of April 2017

The following information has to be provided during the registration procedure:

- the type of student contest (SC1 or SC2);
- the name of student group;
- the title of the project;

The Steering Group committee (Chair, Vice chair, STSM leader) will evaluate the different proposals on the base of the relevance of the topics addressed and of the proposed activities with respect to the COST action focus. Selection will be made at least 1 month after the deadline and will be made based on the following criteria -for SC1- demonstrators:

- a) Methodology and project management
- b) Technology understandings
- c) Quality of demonstrator
- d) Outlook and perspectives and challenges for ActinPak

-for SC2 – Tech & Eco:

- a) Methodology and market analysis tool
- b) Technology understandings
- c) Quality of document and of scheme
- d) Outlook and perspectives and challenges for ActinPak

The possibility to fund additional SC will be discussed within the Steering committee depending on the budget available.

# STUDENT CONTEST



## What it is ?

The two Student Contests (SC) are networking tools aimed at increasing collaborations between European students, researchers and companies in the field of active & intelligent packaging.

	Deadline	Group of student	Deliverable
<b>SC1 – “Demonstrator”</b>	1 <sup>st</sup> of June 2017	Maximum 8 students	1 report 1 ppt presentation-1 video 1 demonstrator
<b>SC2 – “Tech &amp; eco”</b>	1 <sup>st</sup> of June 2017	Maximum 2 students	1 report 1 ppt presentation

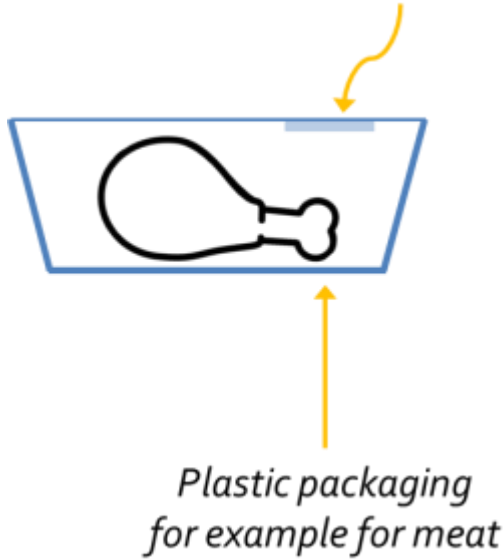
## To Who ?

They are particularly intended for young students in Bachelor or Master Degree. Student groups should be:

- from a Participating COST country
- available to present their results in an ActInPak conference

# Demonstrators

Indicator & Detection of bacteria



Modified atmosphere

Oxygen scavenger applied as a  
label on interior of packaging

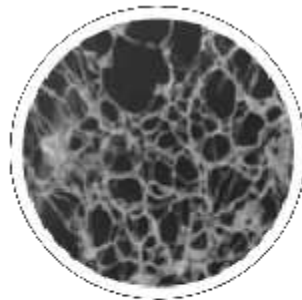


Ethylene scavenging  
inner layer

Antibacterial / anti mould  
Corrugated layer sandwiched  
between inner and outer layer



# SC1 - Examples



# SC2 - Examples

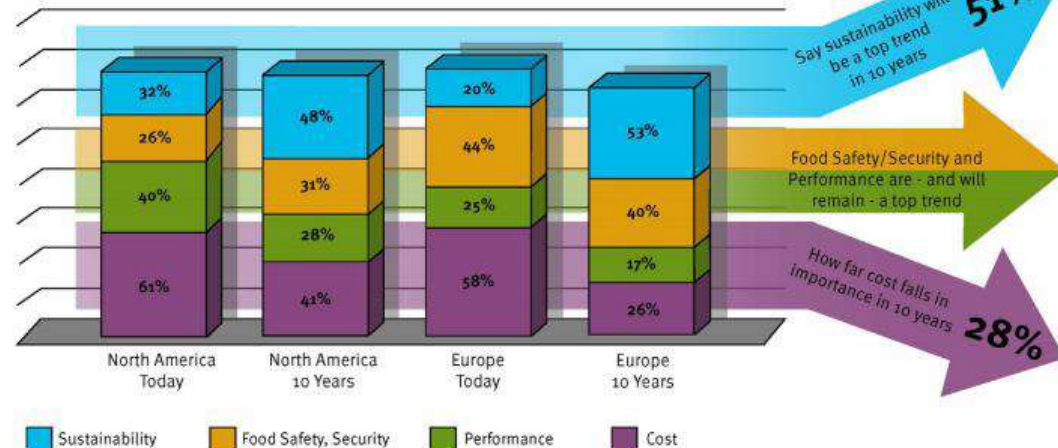
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## Nanocellulose: a solution to improve oxygen scavenger in active packaging

CAZABAN Oihana – VIEILLE Martin  
10/05/2016

### Trends Driving Packaging Today, Tomorrow



Source: 2012 *Packaging World*, DuPont survey of Future Trends

Based on 504 responses: Please select the 2 key trends that most impact your packaging work today and the 2 trends you think will most impact the packaging industry 10 years from now. The number in the arrow reflects a combination of North America and Europe.





# SC2 - Examples

## Nanocellulose: a solution to improve oxygen scavenger in active packaging

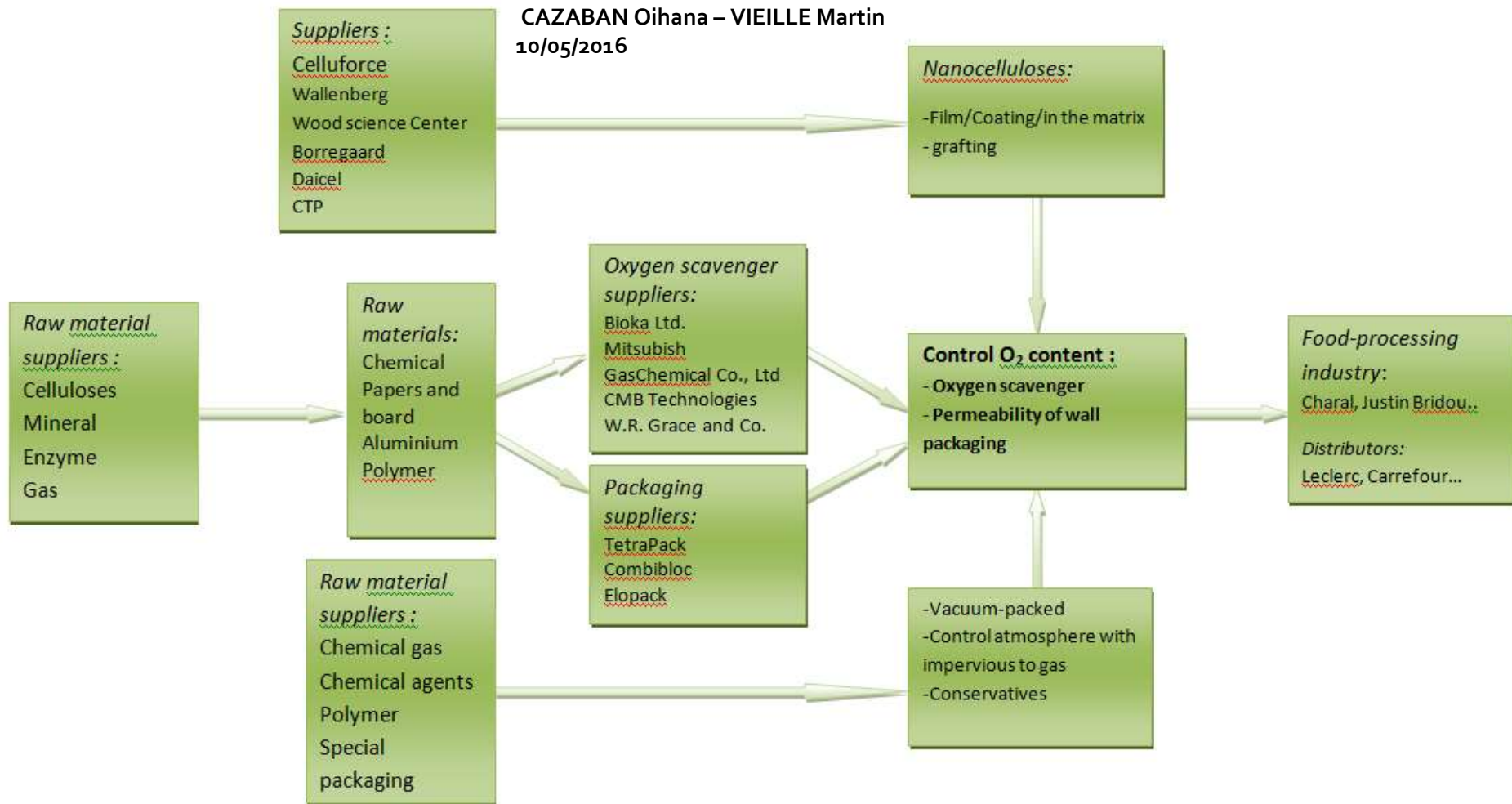


Figure : Porter's diagram for the use of oxygen scavengers coupled with nanocellulose

# STUDENT CONTEST



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*The Steering Group (Chair, Vice chair, STSM leader, WG leader) will evaluate the different proposals on the base of the relevance of the topics addressed and of the proposed activities with respect to the COST action focus. Selection will be made at least 1 month after the deadline and will be made based on the following criteria*

*-for SC1 – demonstrators:*

- a) Methodology and project management*
- b) Technology understandings and development*
- c) Quality of demonstrator*
- d) Outlook and perspectives and challenges for ActInPak*

*-for SC2 – Tech & Eco:*

- a) Methodology and market analysis tool*
- b) Technology understandings*
- c) Quality of document and of scheme*
- d) Outlook and perspectives and challenges for ActInPak*

# STUDENT CONTEST



## Interest ?

Each SC “winner” will be **invited in the next ActInPak conference** to present their work.

They could have networking actions during this conference and have access to last up-dated science in the field

Their CV will be distributed to all partners (more than 100 contacts in industry and university).

Their work (and CV) will be also on-line in ActInPak website.



## ACKNOWLEDGEMENT

This work is based upon work from COST Action FP1405 ActInPak, supported by COST (European Cooperation in Science and Technology)

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