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# ACTIVE AND INTELLIGENT PACKAGING ON DISPLAY

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VIENNA, 21-11-2018

## WELCOME!



#### ACTIVE AND INTELLIGENT ACTIVE AND INTELLIGENT ACTIVE AND INTELLIGENT ACTIVE AND INTELLIGENT ACTIVE AND INTELLIGENT

SAVE THE DATE ON NOVEMBER 21ST THE ACTINPAK CONFERENCE AND FAIR WILL TAKE PLACE IN VIENNA, AUSTRIA





The conference and fair program will soon be published on the ActInPak website where you can also read more about ActInPak.



as well-known scientific and industry members of the European COST Action FP1405 ActInPak will share interactive presentations and physical demonstrations of active and intelligent packaging.

Here, you will find the latest on novel innovations and market implementation of packaging that interacts with its contents (active) or communicates with its consumers (intelligent).

Results of the 4-year COST Action, which involves partners from 43 countries representing 209 academic institutions 83 industries and 35 technical centres, will be presented.



For more information, please visit the ActInPak LinkedIn page or Youtube channel. Follow us also on Facebook and Twitter.





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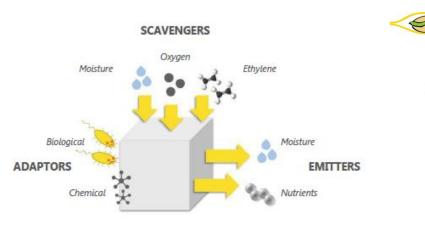
# ACTINPAK?

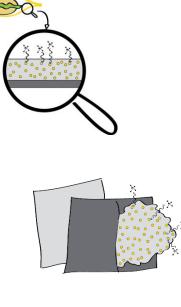


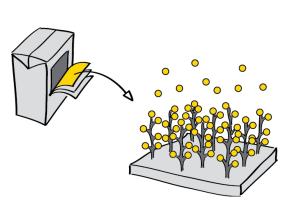


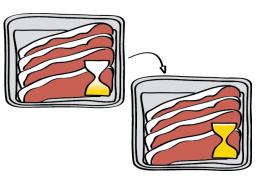
#### SMART PACKAGING











Packaging protects food against damage, Smart packaging can further improve the functions of packaging

**Active** packaging can interact closely with the internal environment of the packaging and the packed products in order to ensure the quality, protect the valuable nutritional components and prevent degradation.

*Intelligent* packaging on the other hand senses changes inside the packaging atmosphere and communicates about the quality of the product.







#### **FOOD IS WASTED EVERYWHERE:**



#### HOW AIP CAN HELP





REDUCE GROWTH OF MICRO-ORGANISMS THAT CAUSE FOOD SPOILAGE



SLOW DOWN RIPENING PROCESSES TO MAKE PRODUCTS LAST LONGER



EXTEND PRODUCT SHELF-LIFE



DETERMINE REMAINING SHELF-LIFE MORE ACCURATELY AND REAL-TIME



PREVENT PRODUCTS FROM GETTING SOGGY OR RANCID TO MAINTAIN TASTE & APPEARANCE



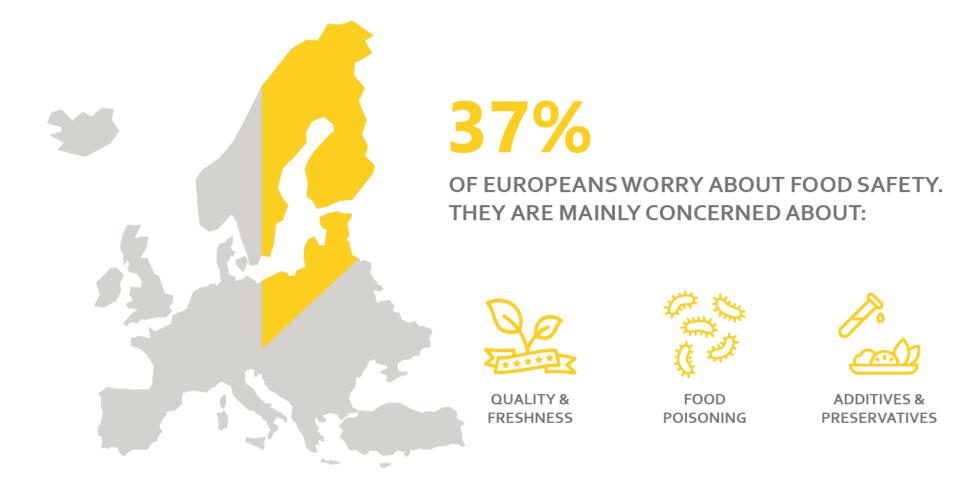
MAINTAIN QUALITY & FRESHNESS AFTER THE PACKAGING HAS BEEN OPENED (SECOND SHELF-LIFE)



COMMUNICATE MORE CLEARLY ABOUT PRODUCT QUALITY & SHELF-LIFE

#### SMART PACKAGING – IMPACT FOOD SAFETY







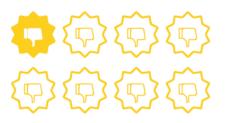
## AND RIGHTLY SO, BECAUSE:







1 IN 8 COUNTERFEITED PRODUCTS ARE FOODSTUFFS



#### HOW AIP CAN HELP





REDUCE GROWTH OF MICRO-ORGANISMS RELATED TO FOODBORNE ILLNESSES



GUARANTEE THAT PRODUCTS ARE AUTHENTIC AND HAVE NOT BEEN TAMPERED WITH



REDUCE THE NEED FOR ADDITIVES & PRESERVATIVES IN FOODSTUFFS



DETERMINE REMAINING SHELF-LIFE MORE ACCURATELY AND REAL-TIME



MAINTAIN QUALITY & SAFETY AFTER THE PACKAGING HAS BEEN OPENED (SECOND SHELF-LIFE)



COMMUNICATE MORE CLEARLY ABOUT FOOD SAFETY & SHELF-LIFE





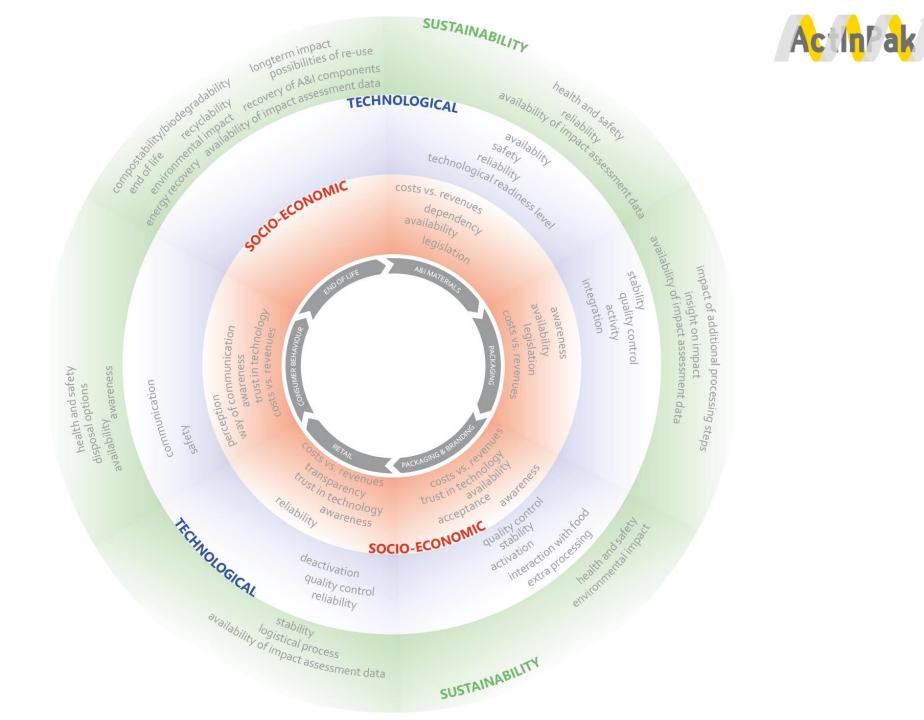
"This really is an innovative approach, but I'm afraid we can't consider it. It's never been done before." Identification of challenges and hurdles to overcome for **successful market implementation** on on different levels: social, technological, economic, ecological and political

Actin Pak

Large European network of scientists and industry from 40 different countries

#### www.actinpak.eu

## CHALLENGES





- Gap research <> industry
  - Lack of awareness of what is AIP
  - Lack of awareness of current infrastructures and requirements
  - Match demands with current technologies
  - Lack of awareness of benefits, added value and impact; not only for consumer, also throughout value chain
  - Cooperation between stakeholders
    - Industry seems to prefer fleshed out technologies, whereas science delivers partial solutions
  - Challenges differ per packaging type (eg bulk vs unit)
  - Who is key decision maker or Stakeholder that benefits most?
  - Prove advantages outweigh the costs
  - Conflicting interests throughout value chain >> find common ground
- Gap industry <> consumers
  - Active packaging is "invisible"
  - Lack of awareness of what is AIP, reach out on different levels
  - More action needed on traceability of unsafe food + informing public when unsafe products are found on the market
  - We are all consumers: if you will never buy it, forget it



# WHY THIS FAIR?





# 4 YEARS OF ACTINPAK...



#### SOCIETY

- » Video explaining AIP
- » Videos about research

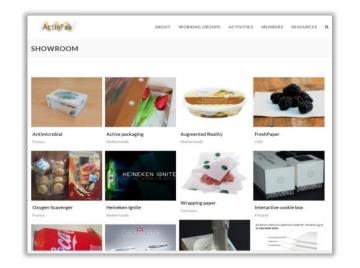
#### INDUSTRY

- » Virtual Showroom with possibilities
- » Leaflets

#### SCIENCE

- » Conferences
- » Papers
- » Teaching kit

And many more, see: <u>www.actinpak.eu</u>







# IMPACT OF ACTINPAK:



- Holistic and integrated approach led to:
  - Awareness creation of AIP in society
  - Awareness creation of COST and AIP in industry
  - Awareness creation of industrial challenges in science
- Interdisciplinary network to sustain collaboration between science and industry:
  - 2014 (prep): Core group of 3 people
  - 2015 (proposal): 72 participants from 26 countries, of which 20 industrial participants
  - 2018 (now): >400 participants from 34 different countries, of which 112 (25%) participants from industry or industrial organisations



# DISSEMINATION





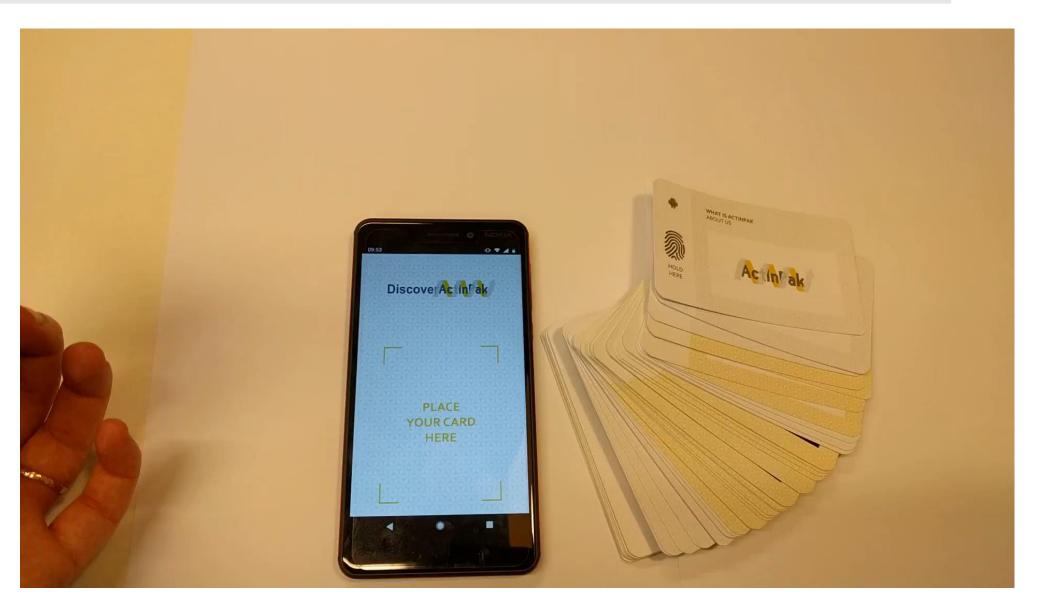
### DISCOVER ACTINPAK CARD DECK





ActinPak

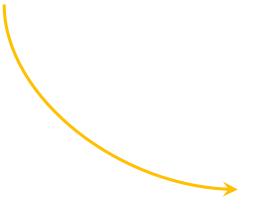




#### INTERESTED?



To receive your personal Discover Actor ak card deck, scan the QR code (or visit the dedicated booth)







# FINAL CONCLUSIONS: MARCH 2019







# THE FAIR





# PAVILLIONS



#### Pavillions:

- Working Groups
- Young researcher results
- Poster presentations in the poster room
- Contribute to our roadmap



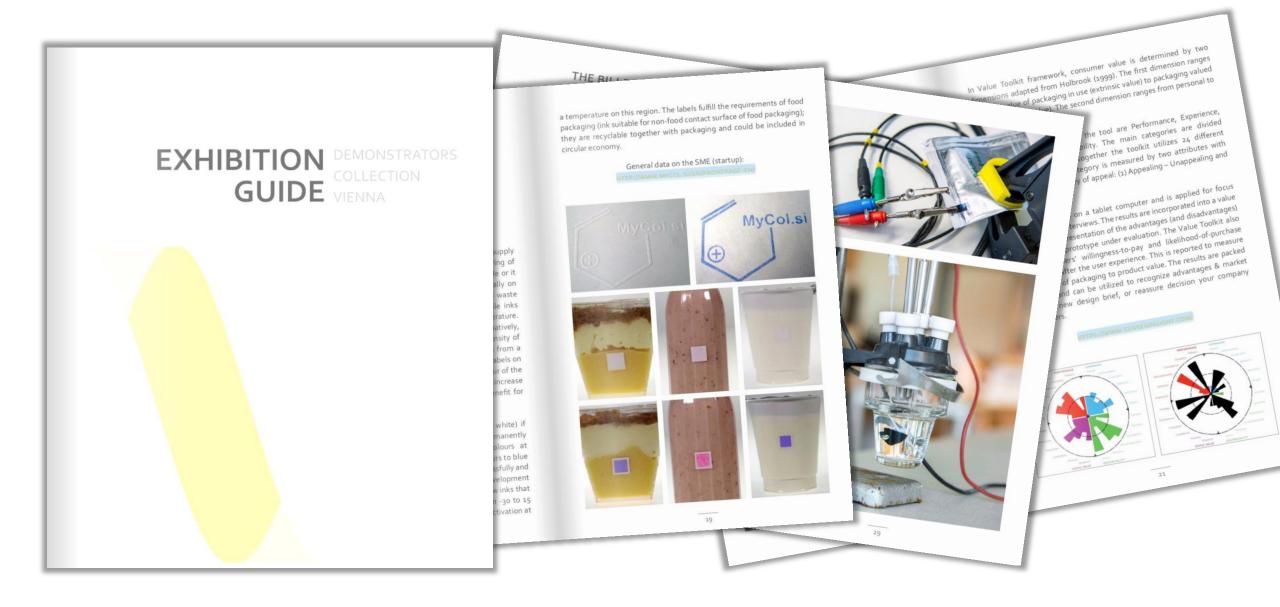
Exhibition of demonstrators

Spotlight presentations

- Oral presentations of Working Groups (11:05-12:10 on stage)
- Poster presentations (throughout the day in the poster room)
- Young researcher results (throughout the day)

#### **EXHIBITION GUIDE**

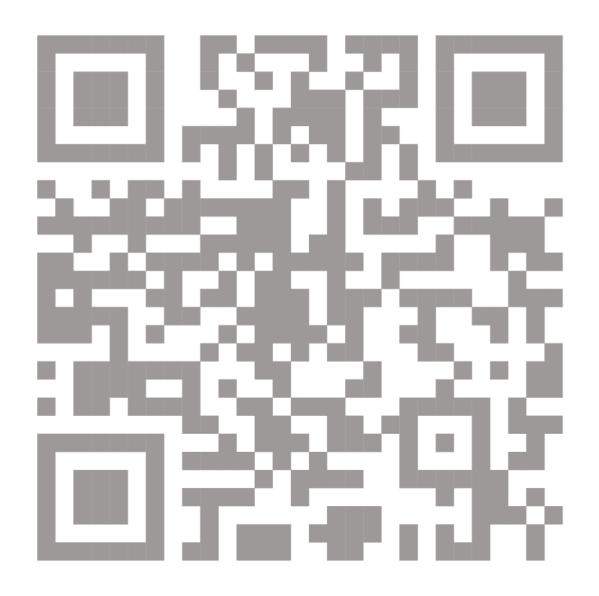




EXHIBITION GUIDE



# Download it now by scanning this QR code





#### 9:45-10:35 Demonstrator presentations

- » BillerudKorsnäs Paper Battery, new sustainable electrode and battery technology Shoko Yamada
- » Keep-itR time- and temperature indicator All-in-One Connected Label Marit Kvalvag Pettersen
- » OXYCHECK 100% Non-invasive Control of Okygen in MAP Packages Volker Ribitsch
- » Printed Sensors for Applications from Smart Packaging to IoT Sensory Solutions Tomas Syrovy

#### 11:05-12:10 Working Group presentations

- » WG1: Development and innovation Selcuk Yildirim
- » WG2: Industrialisation and market introduction Mari Nurmi, on behalf of Johanna Lahti
- » WG3: LCA and sustainability, health and safety Greg Ganczewski
- » WG4: Knowledge transfer and dissemination David Ravnjak



#### 13:35-14:25 Demonstrator presentations

- » Irreversible thermochromic printing inks Marta Klansjek Gunde
- » Smart and safe packaging: antibacterial and printed sensors Hugo Spieser
- » Drinkable Book Water Purification Filter Paper Anouk Dantuma
- » Biopolymerbased nanofibers containing plant essential oils Aleksandra Miletic
- » Targeted communication of active and intelligent packaging for food Katherine Flynn

#### 16:05-16:55 Demonstrator presentations

- » Measuring the Consumer Value of Active and Intelligent Packaging Virpi Korhonen
- » Tempix temperature indicator experiences of market entry Marko Arola
- » Oxygen Scavenging "Active Label" Bettina Röcker
- » Freshness indicator label (freshcode) Vanesa Blasco
- » SuperFresh CO2 emitter Mounir El'Mourabit



# ENJOY AND JOIN THE CONVERSATION: #ACTINPAK





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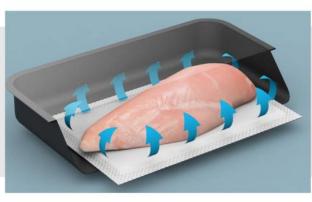
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COST Action FP 1405 Active and intelligent fibre-based packaging – innovation and market introduction



ActInPak is a pan European (COST) network of the leading experts in active and intelligent packaging of over 50 institutes and universities of 28 different countries.



Main goal is to develop a knowledge-based network on sustainable, active and intelligent fibre-based packaging in order to facilitate its introduction on the market.

www.cost.eu/COST\_Actions/fps/ Actions/FP1405



LinkedIn - COST FP 1405ActInPak Facebook - ActInPak